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ABSTRACT

A selection of essays address issues in the education of students of English as a Second Language in Florida, focusing on the development of the state's labor force among this multilingual, multicultural population. Papers include: "Implications of Demographic Changes in Florida's Public School Population" (Thomas D. Boswell); "Issues in the Education of Florida's English Language Learners" (Sandra H. Fradd, Diane K. Wilen, Diane Fardig); "Literacy Development for Language Enriched Pupils through English Language Arts Instruction" (Fradd); "School Mathematics for Language Enriched Pupils" (Walter G. Secada); "Science Instruction and Assessment for Language Enriched Pupils in the State of Florida" (Okhee Lee); "Social Studies Instruction and Assessment: Meeting the Needs of Students Learning English" (Deborah J. Short); and "Promoting the Contributions of Multicultural Students in the Work Force of the 21st Century" (Eugene E. Garcia). (MSE)

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Creating Florida's Multilingual Global Work Force

Policies and Practices in Assessing and Instructing Students Learning English as a New Language

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Miami, Florida March 30, 1998

Creating Florida's Multilingual Global Work Force

Educational Policies and Practices for Students Learning English as a New Language

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Creating Florida's Multilingual Global Work Force

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Introduction

Let there be no mistake, the goal for all of Florida's public school students is full proficiency and literacy in English with high levels of academic achievement in all subject areas. This goal is no less important or desirable for students learning English as a new language as it is for students who enter school already effectively communicating in English.

Educational reform to promote high levels of literacy and academic achievement is pervasive at the national, state, and district levels. Changes in the expectations for educational achievement are clearly visible in the standards-based reform that is shaping the ways instruction and assessment are conceptualized and implemented. National, state, and district level reform efforts strongly impact what teachers and school administrators do to ensure students meet the established standards. Although the standards movement continues to gain power and influence in both instruction and assessment, nowhere in the standards are the educational needs of students learning English as a new language considered in guiding the educational process. The fact that reform in the instruction of students learning English has been initiated within Florida, the state with the third largest population of such students, has important implications for both the state and the nation. It indicates a significant level of commitment to the students, their teachers, and the public to provide the work force for the 21st century.

Creating Florida's Multilingual Global Work Force, the monograph and symposium, is the result of a confluence of efforts to promote high quality educational opportunities for students learning English as a new language. First of all, it represents a strong effort on the part of the Florida Department of Education to address the issue of providing high quality instruction for all students and to extend the reform movement to include those becoming proficient in English. Second, it represents a concerted effort at collaboration among educational institutions to increase public awareness of the educational needs and strengths of these students and to provide teachers, program administrators, and other district personnel with suggestions for enhancing students' educational opportunities. Third, and perhaps most importantly, the creation of the monograph and symposium have initiated a dialogue between the education establishment and the business community. This long overdue exchange holds the potential to shape the ways that education is conceptualized and to extend the notions of reform well beyond the current boundaries.

In considering the educational needs of students learning English, a look at the past can provide insights for addressing current educational needs. At the turn of this century, a peak time for U.S. immigration, educational achievement was not the key factor in determining economic success. A strong back and willing hands were as important as the ability to read and write. During this period, it often took three generations for families to move into the American mainstream. Now, less than 100 years later, manual labor has little economic value. As the value of physical labor has diminished, the expectations for effective communication and literacy have increased. Not only must students have at least a high school diploma, they must be fully literate in English, have an understanding of academic subjects, and know how to use technology. Now,

instead of waiting generations for their families to acculturate to the mainstream, students are expected to participate in the mainstream within a matter of a few years. Advances in technology as well as increased understanding about effective instruction has provided educators with the knowledge needed to promote language learning and literacy development. Now, the challenge lies in promoting literacy in English and in other languages.

Not everyone is aware of the increasing demands for educational achievement. Many people continue to believe that becoming proficient in English is the only requirement for work force participation. As the business community realizes that employees must be imported from other countries because they are not being educated in the United States, the economic value of languages in addition to English is receiving attention. Students who are already enriched with other languages provide an important resource for promoting bilingual literacy development, or biliteracy. Because they can already communicate in at least one language in addition to English, these students also provide important language learning opportunities for students whose only language is English. Thus, rather than being seen as disadvantaged for not knowing English, students learning English can be viewed as bringing the potential advantages of literacy in additional languages to students who have only one language. Although literacy in English is the essential outcome all students must attain, literacy in languages in addition to English is an important learning outcome that, with adequate support, many students can also achieve.

Collaboration among the various members of the group who contributed to the development of the monograph and symposium led to the recognition of the importance of "Educational Policies and Practices for Students Learning English as a New Language," the initial title of the symposium. It was only when the business community became involved that the conceptualization of this effort became clear: if Florida is to successfully extend current economic development, we must engage in *Creating Florida's Multilingual Global Work Force*.

The Greater Miami Chamber of Commerce. We gratefully acknowledge the contributions of many sources of support, inspiration, and insight for promoting biliteracy. Within the Greater Miami Chamber of Commerce, we want to recognize Marisa Feito, Vice President for International Economic Development, Hispanic Business, and Immigration; Rosa Sugrañes, President of Iberia Tiles and Executive Committee Vice Chair of the Hispanic Business Group; Dario Gambo, Senior Vice President of Human Resources for VISA International, Latin American Region and Co-Chair of the Multilingual Development Committee; Josie L. Carvajales, Marketing Representative, Miami/Latin America Division of United Airlines and Co-Chair of the Multilingual Development Committee; Dr. Rudolph Moise, President of Comprehensive Health Center and Co-Chair of the Caribbean/Haiti Committee; and Virginia del Pino, Manager for International Economic Development, Hispanic Business, and Immigration.

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Implications of Demographic Changes in Florida's Public School Population

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Abstract

This chapter summarizes some of the demographic changes that have impacted the ethnic composition of Florida's school-age population. Immigration has played a major role in the transformation of the state from one that was largely comprised of non-Hispanic Whites, with a sizable Black minority, to one that is today much more ethnically diverse. By 1990 Florida had an immigrant population of 1.6 million inhabitants, which was the third largest in the United States. Most of these immigrants speak a language other than English in their homes. They have the potential to contribute enormously to the state's economy by being able to communicate in their native languages. This chapter shows that being able to communicate in Spanish, in addition to being fluent in English, provides a measurable economic advantage that translates into higher incomes and lower poverty rates. However, it also demonstrates the need for immigrants to be able to communicate well in English. Immigrants who cannot speak English well have much lower income levels and higher poverty rates than those immigrants who do speak English well. Despite the fact that it has become an Hispanic enclave, the need to be able to speak English well is just as important in Miami-Dade County as it is in the rest of the state, refuting the notion that it is not necessary to speak English in immigrant enclaves located in large American Cities.

Implications of Demographic Changes in Florida's Public School Population

Thomas D. Boswell

Florida has an enormous geographic advantage over other states when it comes to trade with Latin America. Most casual observers do not know that approximately 80% of the population of Latin America and the Caribbean is located *east* of the Atlantic coast of the U.S. Therefore, the continent of South America not only is south of Florida, but it is also east of the state. For example, the large South American city that is most directly south of Florida is Guayaquil, Ecuador, located on the Pacific coast of South America. These facts provide a major distance advantage for Florida when compared to other states competing for trade with Latin America. For example, Miami is almost 900 miles closer, on average, to Latin America's 16 largest cities when compared to New York City. It is more than 1,800 miles closer than Los Angeles, and 1,100 miles closer than Chicago (Stack, Pierce, & Boswell, 1994).

It might, therefore, seem natural that Florida's international trade would be oriented toward Latin America. This, however, has not been the case for most of the state's history. As recently as 1960, Florida's trade with Latin America was well behind that of such cities as New York City, Los Angeles, and New Orleans. Things are certainly different now. With the increasing Latinization of its population, Florida has become more oriented toward Latin America and the Caribbean, both economically and culturally. Wealthy and middle-class people from Latin America visit such Florida cities as Miami, Fort Lauderdale, Orlando, Tampa/St. Petersburg, and Jacksonville for business, shopping, and recreation. In addition, an increasing number maintain second residences in Florida, where they can spend their vacations and perhaps retire. Florida is home to the U.S.'s two leading Hispanic televison networks, *Univisión* and *Telemundo*, whose Miami-based Spanish-language programs are watched every day in tens of millions of homes both in the U.S. and throughout Latin America as far away as Tierra del Fuego in southern South America (Oppenheimer, 1994). No other state in the U.S. has as many American-owned companies operating in Latin America and the Caribbean as Florida. Furthermore, no place in the U.S. has as many Latin American-owned businesses.

Sustained economic growth requires more than a favorable climate, a strategic geographic location, and a large immigrant population. It also requires highly skilled human resources – in other words, an economically active and efficient labor force. To create this human resource base, educators and policy makers should work in collaboration with Florida's business community to promote the kinds of skills that will enable the state to maintain and expand its international trade momentum with Latin America and other regions of the world. Toward that outcome, this chapter discusses three areas of interest: (a) the demographic and ethnic changes that have occurred in Florida since 1960, (b) the importance of languages in promoting international economic development in the state, and (c) the economic value of language proficiency.

Demographic and Ethnic Changes in Florida

All of Florida's counties have students who speak languages other than English in their homes. Because these students bring new and different ways of communicating, their world views and interaction styles are different from monolingual English-speaking students. In considering the needs of Florida's growing international economy, these students represent a potentially important resource for the state. In order to promote their learning English and acquiring the skills and knowledge that are necessary for entering Florida's developing global work force, it is important to understand the increasing cultural and linguistic diversity that is occurring in the state's population. This growing diversity should be recognized for the potential that it has to enhance future economic development, especially if it is nurtured properly through the state's public education system.

The purpose of this section is to describe how Florida's changing ethnic composition has impacted the growth of the component of its student population that speaks languages other than English in their homes. More specifically, it will (a) describe how Florida's demographic composition has changed during the past three and a half decades, (b) show the role that migration has played in this change, (c) emphasize the diversity of the state's Hispanic population by describing the differing compositions of its four major geographical concentrations, (d) explain the changing ethnic composition of the state's student population, and (e) describe the growth of Florida's Limited English Proficient student population.

Demographic Changes from 1960 to 1995

In 1960, Florida's ethnic composition was very different from what it is now. At that time, 81% of the state's population was comprised of non-Hispanic Whites. By far the largest minority was comprised of Blacks, accounting for 17% of the state's total population. Less than 2% of all Floridians were Hispanic. During the 30-year period between 1960 and 1990, Florida's population more than doubled in size. Although the state's non-Hispanic White and Black populations almost doubled in numbers, it was the Hispanics who virtually exploded in size, by increasing more than 16 times to comprise 12% of Florida's population in 1990 (U.S. Bureau of the Census, 1960; 1990). By 1995, Hispanics had increased their share of Florida's population to 14%, growing to 2,015,000. Although their absolute numbers increased substantially during the 1960 to 1990 period, the percentage of the state's population comprised of non-Hispanic Whites and Blacks declined to 73% and 13%, respectively. Clearly, the most outstanding aspect of Florida's impressive demographic growth during the latter half of this century has been its rapidly expanding Hispanic population. Hispanics have increased to the point that they now equal the state's Black population. Hispanics and Blacks are currently tied as Florida's largest minority populations (Morgan, 1996; Nogle, 1996).

The growth of Florida's Hispanic population is particularly important in the development of the state's international economic base because 89% of them speak a language other than English in their homes (98% speak Spanish). Spanish-speaking Hispanics represent 62% of all persons living in Florida who speak a language other than English at home (U.S. Bureau of the Census, 1995). Clearly, Florida's Hispanics represent an important economic resource in developing trade between Florida and Latin American countries because of their ability to speak Spanish.

The Role of Migration

Migration has long been the primary component of population growth in Florida. For example, between 1990 and 1996, 79% of the state's population increase was attributable to net in-migration (Smith, 1997) and only 21% was due to natural increase (births minus deaths). Among the states in the U.S., Florida's immigrant population (1,662,601) ranks third behind California and New York. However, Florida has only recently become an important destination for immigration, as indicated by the fact that in 1960 it ranked only 11th in the nation in terms of its foreign born population (Lapham, nd). Five of Florida's counties (Miami-Dade, Broward, Palm Beach, Hillsborough, and Pinellas) rank among the nation's top 50 in terms of residents who are immigrants.

Table 1

Regions of Origin for Florida's Immigrant Population

Regions of Birth*	Numbers	Percentages
Caribbean (excluding Puerto Rico)	721,743	43.5
Europe (including the countries of the former Soviet Union)	302,436	18.2
Central America (including Mexico)	190,115	11.4
South America	161,773	9.7
Asia	116,278	7.0
North America (Canada, Bermuda, and others)	78,474	4.7
Not Specified	73,148	4.4
Africa	14,856	0.9
Oceania (Australia, New Zealand, and islands in the Pacific Ocean)	3,778	0.2
TOTAL	1,662,601	100.0

Source: Lapham, F. T. (nd). *The Foreign Born Population in the United States: 1990.* Washington, DC: Ethnic and Hispanic Branch, Population Division, U.S. Bureau of the Census, Table 13.

Immigrants represent widely diverse language backgrounds and offer an enormous potential in promoting Florida in the World's global economy (Lapham, nd). Although Hispanics represent 56% of all immigrants living in Florida, the figures in Table 1 above show that there are many immigrants who have come from non-Spanish-speaking regions of the world. For instance, one fourth of the state's immigrants have come from either Europe or Asia. However, the country sending the most non-Spanish-speaking immigrants to Florida is Haiti (83,249). Among the Europeans who have immigrated to Florida the largest numbers have come from the United Kingdom (61,069), Germany (55,321), Italy (28,693), and Poland (26,313). The largest number of Asians came from the Philippines (22,353), Vietnam (12,843), India (12,221), Korea (8,585), and China (7,940) (Lapham, nd).

Immigrants do not evenly disperse themselves throughout the state. Instead, they are concentrated in certain locations which increases their significance in these areas. For example, Florida's Hispanics are concentrated in four metropolitan areas: Miami, Fort Lauderdale-Hollywood, Tampa, and Orlando. The differences among these four concentrations illustrate the diversity of the state's Hispanic population.

The Largest Concentrations of Hispanics in Florida

The single largest concentration and epicenter of the Florida's Hispanic population is in metropolitan Miami. In fact, 61% of the state's Hispanics lived in Miami-Dade County in 1990 (U.S. Bureau of the Census, 1992). Miami's population composition has been radically altered by immigration not only from Cuba but most other Latin American countries. In 1960 only about 5% of Miami-Dade County's population was Hispanic (Boswell, 1995). By 1995, it had increased to 56% (Nogle, 1996). Slightly more than half (59% in 1990) of Miami-Dade's Hispanics are Cuban Americans. The next three largest components of metropolitan Miami's Hispanic population are Nicaraguans, Colombians, and Puerto Ricans. The Miami-Dade Planning Department Projects that by 2015 the county's population will be 67% Hispanic, 19% Black, and only 14% Anglo (Kerr, 1995).

Nearby to the north of Miami is the Fort Lauderdale-Hollywood metropolitan area (Broward County), with the second largest Hispanic population among Florida's 67 counties. Estimates indicate that the Hispanic proportion of the total population grew to 11% in 1995 and could increase to about 13% by the year 2005 (*The Miami Herald*, 1997). In addition to its smaller number and lower percentage of the total population, the composition of Broward's Hispanics is different from Miami-Dade's because Broward's includes more Puerto Ricans than Cubans. Blacks comprise only about 8% of Broward's population.

Metropolitan Tampa (Hillsborough County) has the third largest Hispanic population, close behind Broward County. Its Hispanic component has been steadily growing and is more evenly split among Cubans (28%), Puerto Ricans (23%), and Mexicans (17%). Tampa has a long history of Cubans living in its Ybor City neighborhood that dates back to the cigar-making days of the late 1880s. In 1990, 12.6% of the population was comprised of Hispanics and 12.8% were Black.

Metropolitan Orlando (Orange County) has the fourth largest Hispanic population. Its largest component, by far, is comprised of Puerto Ricans (54%). After Miami-Dade, Orange County has the second largest concentration of Puerto Ricans in Florida. Hispanics comprise 9% of metropolitan Orlando's population, while Blacks account for about 15%. In 1960, only slightly more than 2,000 Hispanics lived in this county, but this number increased to 63,087 by 1990.

The differences in composition of Florida's four major Hispanic concentrations affect the culture and international trade orientation of these cities. For example, Miami's politics are deeply affected by its Cuban component, and its Latin American trade is especially directed toward Nicaragua, Colombia, and other South American countries. Broward and Orlando have stronger ties with Puerto Rico, and Tampa/St. Petersburg is more evenly affected by its Cuban, Puerto Rican, and

Mexican populations.

The Changing Ethnic Composition of Florida's Student Population

The changes in Florida's population are reflected in its public school student enrollments. Although each ethnic and racial group in the public school student population has experienced significant growth since the 1970s, the Hispanic population has grown the fastest. In 1990, Hispanics represented 12% of the state's public school student body. They increased to 16% in 1996 and could increase to 18% by 2006.[1] While the Hispanic percentage increased, the percentage for the state's non-Hispanic White students declined from 63% in 1990 to 57% in 1996, and is expected to further decrease to 54% by 2006. At the same time, the Black percentage rose slightly from 24% in 1990 to 25% in 1996, and is expected to further increase to 26% in 2006.

Table 2

Countries of Origin for Foreign Born Students in Florida's Public Schools 1995-96

Academic Year

Countries of Birth*	Numbers	Percentages	Countries of Birth*	Numbers	Percentages
Cuba	19,909	11.2	Peru	5,584	3.1
Haiti	17,926	10.1	Honduras	5,084	2.9
Nicaragua	15,308	8.6	Brazil	4,793	2.7
Mexico	14,491	8.1	Germany	4,791	2.7
Jamaica	9,435	5.3	Bahamas	4,323	2.4
Colombia	9,270	5.2	Canada	3,676	2.1
Dominican Republic	6,866	3.9	All Other Countries	49,556	27.9
Venezuela	6,805	3.8	Totals	177,817	100.0

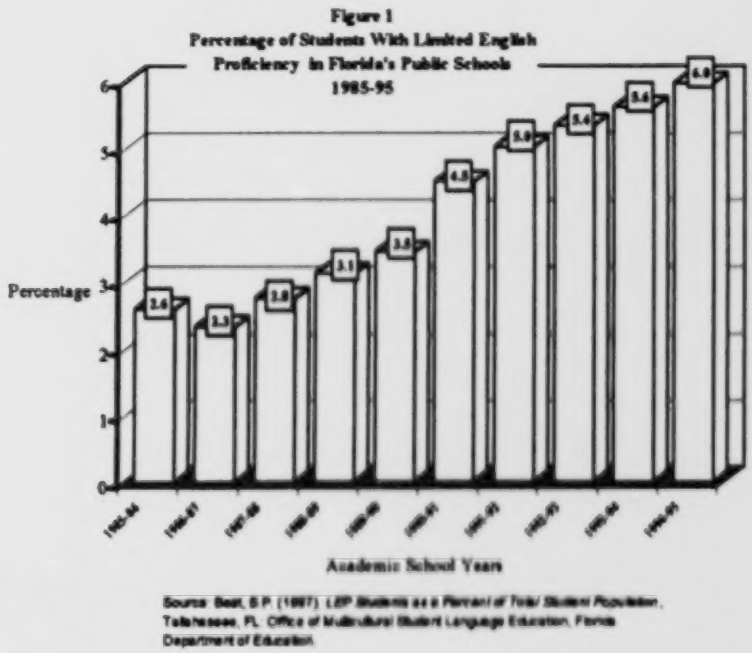
Countries contributing more than 3,000 foreign born students.
Source: Best, S.P. (1997). *Students Born in Countries Other Than the US and its Territories, 1993/94 and 1995/96.* Tallahassee, FL: Office of Multicultural Student Language Education, Florida Department of Education.

The explosive growth in Florida's immigrant population is exhibited in the state's growing foreign born student population, which had reached almost 178,000 by the 1995-96 academic year (Table 2 above). Of the 14 countries contributing more than 3,000 students each in 1995, 12 were located in the Western Hemisphere south of the U.S. These 12 countries account for 70% of the state's foreign born students. Cuba and Haiti sent the largest numbers of immigrant students, followed by Nicaragua and Mexico. Jamaica and Colombia also sent notable numbers.

[1] The figures for Florida's White, Black, and Hispanic populations for 1990 and 1996 come from: Martha Miller, Strategic Planning Department, Florida Department of Education, Tallahassee, Florida, 1997, (904) 487-1630.

Florida's Limited English Proficient (LEP) Students

The percentage of Florida's students who have been identified as limited English proficient (LEP) has risen steadily during the past ten years from 2.6% during the 1985-86 academic year to 6.0% in 1994-95 (Figure 1), reflecting the continuing large stream of immigrants into the state. One definition of the Limited English Proficient (LEP) students, used by the Florida Department of Education, includes students who are living in a home where a language other than English is usually spoken. This is the definition used in this chapter and for the data displayed in Figures 1 and 2.



Source: Best, B.P. (1997). LEP Students as a Percent of Total Student Population. Tallahassee, FL: Office of Multicultural Student Language Education, Florida Department of Education.

The map in Figure 2 below shows the widely dispersed geographic pattern of Florida's LEP students. It also illustrates their concentration in the state's largest metropolitan areas, especially in southeastern Florida, the Tampa/St. Petersburg metropolitan area, and Orlando. On this map, each dot represents 40 LEP students, so counties with no dots have at least a few LEP students (although less than 40).

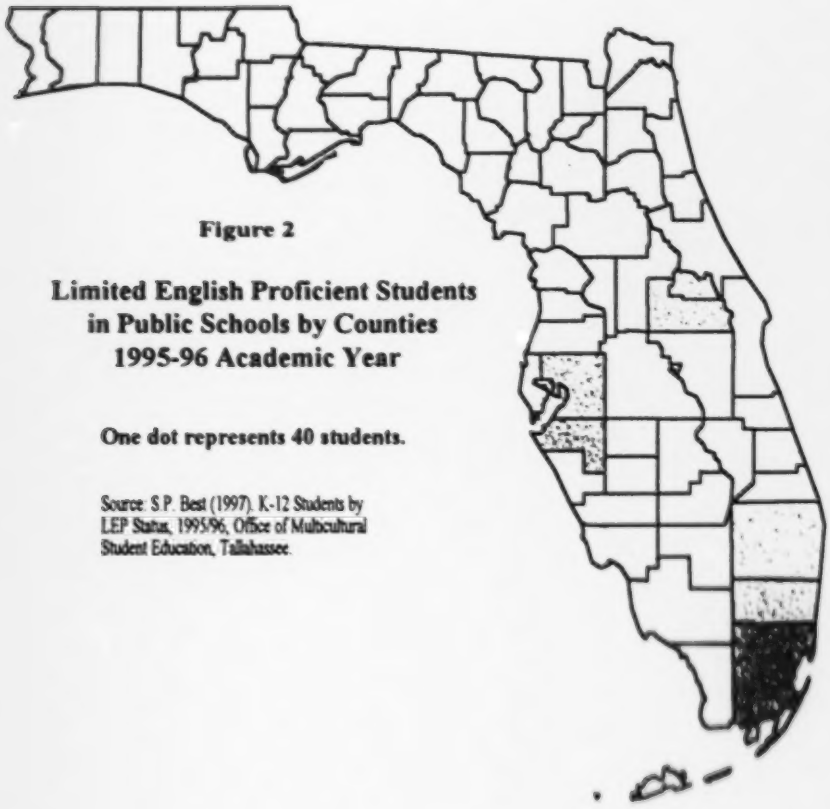


Figure 2

Limited English Proficient Students in Public Schools by Counties 1995-96 Academic Year

One dot represents 40 students.

Source: S.P. Best (1997). K-12 Students by LEP Status, 1995/96, Office of Multicultural Student Education, Tallahassee.

The languages spoken by Florida's students in their homes are displayed in Table 3 below. Approximately, 99% of these students speak one of only six languages, including English. Spanish is the language spoken by the majority of the state's students who do not speak English in their homes. Most of the Spanish-speaking students are of Latin America ancestry, although a few are from Spain and such places as the Canary Islands and the Philippines. Haitian-Creole and French-Creole are spoken by people of Haitian origin and by some immigrants from the French West Indies, such as Guadeloupe and Martinique. People living in Florida who speak Portuguese are mainly from Brazil. French is spoken by immigrants, or children of immigrants, mainly from Haiti and and French Canada (especially Quebec Province). The 1990 U.S. Census reveals that less than 10,000 people from France lived in Florida at that time (U.S. Bureau of the Census, 1995). An astonishing total of 165 languages are represented in Florida's LEP population, including American Sign Language (Florida Department of Education, 1997). Florida's students can communicate with virtually any country in the world today.

To summarize this section the following points are especially relevant. First, although all components of Florida's population have grown during the past 35 years, it is the Hispanics that have grown by far the most rapidly, increasing by a factor of 16 between 1960 and 1995. Second,

Florida's growth has been mainly generated by migration, especially (but not totally) from Latin American countries, but significant numbers of immigrants have also arrived from Europe and Asia causing Florida's population to become increasingly diverse culturally and linguistically. Third, although Hispanics have dominated Florida's recent population growth, it is important to note that the state's Hispanics are a very diverse group, as is illustrated by the national compositions of their concentrations of Miami, Fort Lauderdale, Tampa/St. Petersburg, and Orlando. Fourth, Florida's changing population is directly reflected in the altering ethnic composition of its public school population, particularly with its rapid increase in Hispanics. Finally, the number of LEP students in the state has rapidly expanded and is becoming increasingly diverse through the effects of immigration.

Table 3

Languages Spoken in the Homes of Students in Florida's Public Schools1995-96

Languages*	Numbers	Percentages
English	1,997,965	84.7
Spanish	277,669	11.8
Haitian-Creole (Includes French-Creole)	43,123	1.8
Portuguese	4,783	.2
Vietnamese	3,912	.2
French	3,567	.2
All Others	24,996	1.1
Totals	2,356,015	100.0

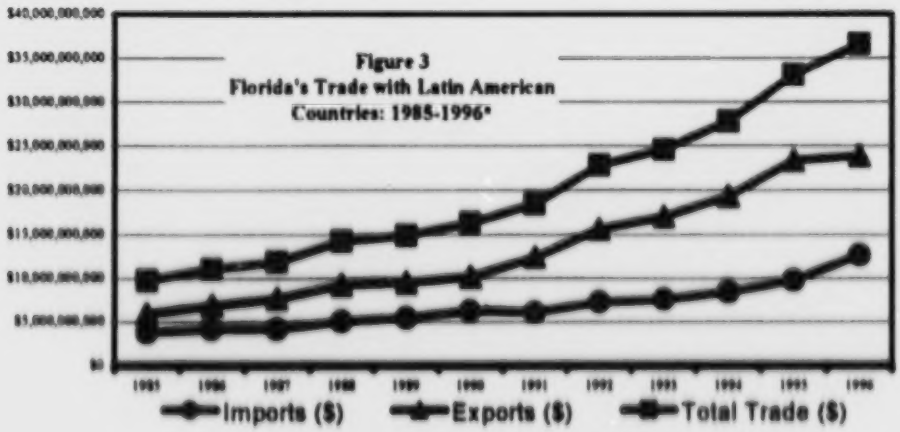
Languages spoken by more than 3,000 students.
Source: Best, S.P. (1997). *Florida's PreK-12 Students by native language - 1995/96.* Tallahassee, FL: Office of Multicultural Student Language Education, Florida Department of Education.

The Importance of Languages in Promoting International Economic Development

Florida is the focus of U.S. trade with Latin America. It now engages in more Latin American trade than any other state. For example, Florida controls almost 50% of all U.S. trade with the Caribbean, about one-third of all U.S. trade with South America, and approximately half of all trade with Central America (not including Mexico). It has more foreign owned banks than any other state in the U.S., except for New York. More than 130 international corporations, including Texaco, General Motors, Sony, Nabisco, Komatsu, Airbus, and AT&T, have established their Latin American headquarters in Florida (Chiles, 1994). Although Miami is the epicenter of this activity, it is not the only Floridian city to become significantly affected by increased trade with Latin America. Broward County (including Fort Lauderdale-Hollywood), Orlando, Tampa-St. Petersburg, and Jacksonville have also felt the benefits of increasing trade with Latin America. Port Everglades and Fort Lauderdale Airport in Broward County have grown enormously to become serious competitors with

Miami-Dade County's airport and port facilities.

Florida's increasing trade with Latin America is clearly shown in Figure 3. Imports from these countries to Florida increased from less than $4 billion in 1985 to almost $13 billion in 1996. Likewise, exports from Florida to Latin American countries grew in value from about $6 billion to almost $24 billion during the same 11 year period (Enterprise Florida, 1997).[2] This is a major change from the situation in 1960 when Florida's economy was domestically oriented, especially toward the northeastern and middle western states.



Note: These data include figures for Canada in addition to Latin America. Canada accounted for about 11 percent of Florida's exports to Western Hemisphere countries in 1996.

Source: Enterprise Florida. (1997). *Florida Hemispheric Partners*. Orlando, FL: Team Florida, III Business Forum of the Americas.

[2] These trade figures are for all countries included within the Summit of the Americas (SOA) consortium of Western Hemisphere countries. As such, they include figures for Canada, as well as most Latin American and Caribbean countries. Of course, Canada is not a Latin American country. In 1996, Canada accounted for 11.3% of all exports from the U.S. to SOA countries. On the other had, there are several Caribbean countries that trade with the U.S. (excluding Cuba) that are not included as SOA countries because they are not politically independent (e.g. Puerto Rico, Guadeloupe, Martinique, and the Netherlands Antilles). They accounted for 1.4% of all U.S. exports in 1996. If we subtract Canada's contribution to U.S. exports (because it is not a Latin American country) and add in the exports to the Caribbean countries that are not included in the SOA consortium (because they are part of Latin America), this would reduce the Latin American export estimate by about 10% (to about $21.6 billion). Comparable figures on U.S. imports are not available from this source to estimate trade with Latin America: Enterprise Florida, *Florida Hemispheric Partners*, Orlando, Florida, 1997.

Although about two-thirds of Florida's foreign trade is oriented toward Latin America and the Caribbean, it would be a mistake to forget about its trade with other regions of the world because business there is also expanding. In 1996, Florida's trade with Europe accounted for approximately 16% of all the state's exports, increasing in value to almost $4 billion. Similarly, exports to Asian countries has grown to about $3 billion, accounting for 12% of the Florida's exports. Even trade with Africa has grown to $350 million, accounting for almost 2% of the state's commerce. All indications are that trade with these other regions will increase in the future making Florida a truly global state in its commerce. As trade with these other countries increases and Florida becomes increasingly integrated in the world's global economy, the importance of learning languages in addition to English increases concomitantly.

The Hispanic Enclave Economy in Miami

The development of Miami's Hispanic enclave economy illustrates how immigration and international trade both can transform a city. During the initial stage of their immigration to Miami during the 1960s, many Cubans experienced troubling conditions. Most of them did not speak English. In addition, those who came from the licensed professions such as lawyers, doctors, teachers, and engineers were not able to practice in the U.S. until they passed certification examinations. Others were discriminated against by unions, making it difficult for them to become employed in trades such as the construction and electrical repair industries and the mechanical trades. As a strategy for improving their lifestyles, the Cubans developed their own economy in Miami.[3]

The development of the Cuban enclave economy in Miami hinged on three factors: (a) availability of capital, (b) a capable labor force, and (c) a suitable market for its products. Although a few early arrivals from Cuba brought some capital with them when they moved to Miami, most did not. Instead, financial capital was supplied by banks, often owned by wealthy Latin American investors but managed by Cubans who had experience in banking prior to leaving Cuba. The Cuban managers made loans to other Cubans whom they had known in Cuba before coming to Miami, without the usual collateral guarantees. These were called "character loans" because they were based upon knowledge of the borrower's character when living in Cuba. Most of these loans were successfully paid back to the bankers who had approved them.

A reliable labor force was provided by friends and relatives of the Cuban entrepreneurs. These workers were less likely to join unions and were often willing to work for lower wages and longer hours. In return, they knew they would be taught the business and taken care of if they experienced an emergency. Friends and relatives could be counted on to help if a job needed to be done quickly and extra hours of labor were required to accomplish it. Also, new immigrants could easily find work in these Cuban-owned firms, where the problems caused by their inability to speak English would be minimized.

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[3] For more information on Miami's Hispanic enclave economy the reader is referred to: Portes, 1987; Portes & Bach, 1985; Portes & Mozo, 1985; Portes & Rumbaut, 1990; and Portes & Stepick,1993.

Once the Cuban population reached a threshold of sufficient size to support Cuban-owned businesses, the success of the enclave was assured. Cubans tended to purchase goods and services from other Cubans, who would often extend credit in times of need. This combination of nationalistic loyalty and practicality allowed the enclave to prosper.

New waves of immigrants from Cuba and from other Latin American countries sustained the inexpensive labor force needed to maintain the enclave. When the older Cubans and other Hispanic entrepreneurs became monetarily successful, they made capital investments that allowed new Hispanic entrepreneurs to start businesses. As the Hispanic population grew and became increasingly prosperous, the market for goods and services produced in the enclave also expanded. The enclave provided both a refuge for those who could not speak English and opportunities for newly arriving Latin American immigrants.

The success of the enclave does not mean that Hispanics are taking over the economies of both Miami and Florida such that speaking English will soon no longer be a necessity nor an economic advantage. The lesson of Miami's Hispanic enclave is found in the opportunities it offers to both Hispanics and non-Hispanics. The need to effectively communicate in oral and written English is essential to achieving the economic and social advancement that all immigrants want to achieve. However, the enclave also demonstrates the advantage of knowing a second language, in addition to English, by increasing the opportunities for achieving success in Florida.

Although the intensity of Miami's Hispanic economic enclave is not likely to be copied in Florida's other cities, its influence will certainly be felt. In fact, its influence is already recognized in cities such as Fort Lauderdale-Hollywood, Orlando, and Tampa, whereby a similar combination of nationalistic loyalty and practicality is becoming apparent among some of the state's other national groups, especially Haitians, Nicaraguans, Colombians, Puerto Ricans, and French Canadians in the areas in which they have most heavily settled. In addition, immigrant customers and foreign visitors provide important cash receipts for many of Florida's businesses ranging from Orlando's Disney World, Tampa's Bush Gardens, and Miami's Seaquarium, to attendance at natural attractions such as Everglades National Park, beaches, and the Florida Keys. The lessons learned during the formation of the Hispanic enclave in Miami can be similarly applied by other immigrant groups settling in Florida, where available capital, a capable labor force, and a large market will pay dividends.

The Economic Value of Language Proficiency

Language has played an important role in Florida's economic development. Proficiency in English is important for personal economic improvement, but proficiency in other languages is also important. This section will emphasize the importance of speaking English well and learning a second language, especially Spanish, in Florida. It concentrates on Hispanics for three reasons. First, they represent 56% of the state's total foreign born population, and it is the foreign born who are most likely to speak a language in their homes that is not English. Second, Hispanics represent 82% of all

persons living in Florida who indicate that they do not speak English well or do not speak it at all. Third, as stated earlier in this chapter, virtually all (98%) of Florida's Hispanics who speak a language other than English in their homes speak Spanish (U.S. Bureau of the Census, 1995). The third point is important because by concentrating on people who speak Spanish, there is no need to be concerned by the fact that speakers of some foreign languages (like Chinese or Russian) have more difficulty learning English than speakers of others.

Despite the concentration on Hispanics in this paper, it is important to note that it is not only Hispanics who have difficulties speaking English in Florida. Almost 89,000 non-Hispanics living in the state indicated on the 1990 Census questionnaire that they either do not speak English at all or do not speak it well. For example, 141,360 Blacks living in the state speak a language in addition to, or instead of, English and almost 28,000 have difficulties speaking English. It may surprise some readers to learn that Blacks represent 31% of all non-Hispanics in Florida who either don't speak English well or don't speak it at all (U.S. Bureau of the Census, 1995). In Miami-Dade County, Blacks represent 63% of all non-Hispanics who have difficulties with English (U.S. Bureau of the Census, 1993), and most of them are Haitian immigrants who speak either Haitian-Creole or French as their native language.

This section addresses four issues. The first demonstrates that Hispanics are learning to speak English. Second, it explains that Hispanics are learning English because they have powerful economic incentives to do so. Third, it shows that in Florida there is an economic incentive for being able to speak Spanish in addition learning to speak English well. People who are fluent in both Spanish and English generally achieve higher socioeconomic status than those who speak only English in Florida. Fourth, it will summarize findings regarding non-Hispanics who live in Florida and speak a language other than English or Spanish in their homes.

Table 4

English Proficiency of Florida's Hispanics,* Who Speak Spanish in Their Homes, by Time of Immigration: 1990

Ability to Speak English	Year of Immigration (Percentages)							
	Born in U.S.	1982 to 1990	1980 to 1981	1970 to 1979	1960 to 1969	1950 to 1959	Immig. Before 1950	Total
Very Well	80.9	27.6	33.7	39.3	44.0	47.6	48.6	46.3
Well	13.4	24.0	23.5	23.3	23.1	30.2	32.5	21.8
Not Well	4.8	26.9	23.3	23.2	19.5	18.4	15.0	19.0
Not at All	.9	21.5	19.5	14.2	13.4	3.8	3.9	12.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Hispanics 5 years of age or older.
Source: U.S. Bureau of the Census. (1995). *1990 Census of Population.* Washington, DC: One Percent Public Use Microdata Sample, Florida.

Hispanics Are Learning to Speak English Well in Florida

The figures in Table 4 above clearly show that Florida's Hispanics are learning English. Of those Hispanics *born in the U.S.*, who speak Spanish in their homes, 94% speak English either well or very well. Among Hispanic immigrants there is a strong relationship between length of time spent living in the U.S. and their ability to speak English. The earlier that immigrants arrived in the U.S. the greater the likelihood they speak English "well" or "very well." Two-thirds of *all Hispanics* living in the state who speak Spanish as their native language, speak English either "very well" or "well." For example, among Hispanics who immigrated to the U.S. before 1950, 81% claim to have no problems with English. In contrast, among those who arrived more recently during the 1982-1990 period, only half (52%) indicate they speak English "very well" or "well."

The Economic Incentives for Learning to Speak English

This section tests the proposition that there are strong economic incentives for Hispanics to learn to speak English well in Florida and in Miami-Dade County. A positive correlation between English proficiency and socioeconomic status suggests that ability to speak English provides an advantage in the labor force that translates into higher incomes, lower poverty rates, higher educational achievement levels, and employment in higher-paying occupations. This reasoning suggests that socioeconomic status can be measured in a number of ways. Most social scientists also agree that socioeconomic status is a multi-variable concept. In this chapter it is measured by focusing on income levels and poverty status.

Table 5

English Proficiency of Florida's Hispanics* by Income Categories: 1990

Ability to Speak English	Income Categories (Percentages)							Dollars	
	Less than $4,000	$4,000 to $9,999	$10,000 to $19,999	$20,000 to $49,999	$50,000 to $74,999	$75,000 and More	Total	Median Income	Mean Income
Speak Only English	28.7	21.0	23.9	22.5	2.4	1.5	100.0	$10,000	$14,927
Ability to Speak English by Hispanics Who Speak Spanish in Their Homes									
Very Well	26.3	18.1	24.8	25.7	3.0	2.1	100.0	$12,000	$17,056
Well	26.2	22.4	29.1	19.5	1.7	1.1	100.0	$10,000	$13,852
Not Well	31.8	31.0	24.9	11.1	1.0	.2	100.0	$7,000	$9,504
Not at All	40.4	39.6	14.9	4.7	.2	.2	100.0	$4,632	$6,259
Total	29.4	24.5	24.3	18.7	1.9	1.2	100.0		

*Hispanics 16 years of age or older.
Source: U.S. Bureau of the Census. (1993). *1990 Census of Population*. Washington, DC: One Percent Public Use Microdata Sample, Florida.

Figures in Table 5 demonstrate that as the ability to speak English increases, incomes also increase. For example, those Hispanics who speak English "very well" have a noticeably higher

percentage (5.1%) in the two highest income classes, when compared to those who speak English "not at all" (.4%). The latter group also has a much higher percentage of its population in the two lowest income categories (80.0%) when compared to the former group (44.4%). The largest proportion of Hispanics speaking English "very well" are in the $20,000 to $49,999 income category; whereas the largest percentage of Hispanics speaking English "not at all" is in the less than $4,000 class. Average incomes for the five English proficiency groups are also shown in Table 5 through use of both medians and means. For example, Hispanics who speak English "very well" have a *median* income that is more than $7,000 higher than those who who speak English "not at all." Hispanics who speak English "well" have a *median* income advantage of $3,000 over those who speak English "not well." The *mean* income values in the last column of Table 5 accentuate the same patterns. It makes no difference which measure of average income a researcher uses, the tendencies are the same: Hispanics who speak English better tend to have higher incomes.

Table 6

English Proficiency of Florida's Hispanics* by Poverty Status: 1990

Ability to Speak English	Below Poverty (Percentages)	Above Poverty (Percentages)	Total (Percentages)
Speak Only English	17.2	82.8	100.0
Ability to Speak English by Hispanics Who Speak Spanish in Their Homes			
Very Well	14.3	85.7	100.0
Well	17.1	82.9	100.0
Not Well	24.4	75.6	100.0
Not at All	33.0	67.0	100.0
Total	19.0	81.0	100.0

*Hispanics 5 years of age or older.
Source: U.S. Bureau of the Census. (1995). *1990 Census of Population*. Washington, DC: One Percent Public Use Microdata Sample, Florida.

Table 6 shows that there is a clear inverse relationship between Hispanic poverty rates and English proficiency in Florida. The percentages indicate a consistent pattern for poverty rates to decline as English speaking abilities increase. Those who speak English "very well" have the lowest poverty rate and those who do not speak any English have the highest poverty rate. One-third of all Hispanics who do not speak English in Florida are living in households with incomes below the poverty level. Conversely, only about one-in-seven Hispanics who speak English "very well" live in poverty. Although, there are some wealthy Hispanics living in Florida who do not speak English, they should be considered exceptions, rather than a violation of the general principle that there are significant correlations between English speaking abilities and income and poverty.

In addition to income and poverty, education levels and occupation types were also investigated for the state of Florida, although the results are not shown in this paper. The patterns were identical to those just described for income and poverty. In other words, people who spoke

English "very well" and "well" are much more likely to have higher education levels and higher-paying jobs than are those who spoke English "not well" or "not at all." These findings provide additional evidence in support of the general principle that there is a positive relationship between English proficiency and socioeconomic status. The bottom line of these findings is that there are powerful incentives for learning English and this explains why Florida's Hispanics are doing just that.

Earlier in this chapter, the success of Miami's Hispanic enclave economy was discussed as a mechanism for assisting Hispanic immigrants to adjust to life in South Florida. Considering the influence of Hispanics in metropolitan Miami, it is reasonable to ask whether there are the same financial incentives for learning to speak English well in Miami-Dade County that there are for the rest of the state. There is a debate among social scientists regarding the importance of English proficiency among Hispanics living in enclaves. Some have suggested that in Hispanic enclaves like El Paso, San Antonio, Brownsville, Laredo, San Diego, Yuma, and other cities located along or near the U.S.-Mexico border, there is less of an advantage to learning English than there is in areas where there are few Hispanics (McManus, 1990; Sanders & Nee, 1992, 1987). Others argue that English proficiency provides similar advantages in ethnic enclaves and in non-enclave cities because all U.S. cities are interconnected by the nation's well-developed transportation and communications systems (Carliner, 1981; Portes & Jensen, 1992; Wilson & Portes, 1980).

Table 7

English Proficiency of Miami/Dade County's Hispanics* by Income Categories: 1990

Ability to Speak English	Income Categories (Percentages)							Dollars	
	Less than $4,000	$4,000 to $9,999	$10,000 to $19,999	$20,000 to $49,999	$50,000 to $74,999	$75,000 and More	Total	Median Income	Mean Income
Speak Only English	29.1	25.5	21.7	18.6	3.1	2.0	100.0	$8,200	$14,548
Ability to Speak English by Hispanics Who Speak Spanish in Their Homes									
Very Well	26.0	16.2	23.9	28.7	2.9	2.3	100.0	$12,394	$17,711
Well	25.0	21.1	29.3	21.6	1.6	1.4	100.0	$11,000	$14,703
Not Well	32.0	30.8	25.9	10.3	.6	.4	100.0	$6,874	$9,511
Not at All	41.8	37.7	15.8	4.3	.3	.1	100.0	$4,560	$6,285
Total	30.0	24.6	23.8	18.5	1.7	1.4	100.0		

*Hispanics 16 years of age or older.
Source: U.S. Bureau of the Census. (1993). *1990 Census of Population.* Washington, DC: Five Percent Public Use Microdata Sample, Florida.

Data in Tables 7 and 8 are used to test the hypothesis that the same incentives for becoming proficient in English in Florida also apply to Miami-Dade County. Table 7 shows that almost 80% of all Hispanics living in Miami who speak English "not at all" are concentrated in the two lowest income classes. The comparable figure for Hispanics who speak English "very well" is much less, about 42%. Conversely, 5.2% of those who speak English "very well" earn incomes in the two

highest categories; whereas only .4% of those who do not speak English earn incomes that fall into the same two income classes. The median and mean income figures in Table 7 illustrate the same pattern, Hispanics who speak English better earn higher average incomes. Persons who speak English "very well" earn incomes that average $1,594 higher than those who speak it "well," and $8,034 more than the Hispanics who do not speak English at all.

The percentages in Table 8 show that English proficiency is inversely related to poverty in Miami-Dade County, just as it is in the rest of Florida (Table 6). For Miami's Hispanics, learning to speak English "very well" is one of the best assurances that they will not live in poverty. Hispanics in Miami-Dade County who speak English "very well" are 2.4 times *less* likely to live in poverty (13.1%) when compared to those who do not speak English at all (32.0%).

Table 8

English Proficiency of Miami/Dade County's Hispanics* by Poverty Status: 1990

Ability to Speak English	Below Poverty (Percentages)	Above Poverty (Percentages)	Total (Percentages)
Speak Only English	17.2	82.8	100.0
Ability to Speak English by Hispanics Who Speak Spanish in Their Homes			
Very Well	13.1	86.9	100.0
Well	16.7	83.3	100.0
Not Well	22.8	77.2	100.0
Not at All	32.0	68.0	100.0
Total	18.9	81.1	100.0

*Hispanics 5 years of age or older.
Source: U.S. Bureau of the Census. (1993). *1990 Census of Population*. Washington, DC: Five Percent Public Use Microdata Sample, Florida.

This section of the chapter has clearly demonstrated that Speaking English "very well" or "well" provides the same economic advantages in Miami-Dade County that it does in the state of Florida. While it is true that Hispanics can get along speaking only Spanish in Miami, it is equally true that speaking only Spanish limits opportunities for greater economic success. This is as true for Miami as it is for the rest of Florida.

The Economic Incentives for Speaking Spanish In Addition to English

The U.S. Census Bureau does not provide information on the level of proficiency for languages other than English. However, in 1990, the Bureau did ask people if they spoke a language other than English in their homes. If they did speak another language they were asked what that language was, but they were not asked how well they spoke it. Still, it is possible to determine if there was an advantage to speaking a second language by comparing the socioeconomic characteristics of those who "spoke only English" with those who spoke another language in addition to English. Again, this section concentrates its analysis on Hispanics.

Although the differences are not great, there is a clear and consistent tendency for Florida's Hispanics who speak English "very well" and who also speak Spanish to have higher incomes than those Hispanics who "speak only English" (Table 5). A larger percentage of the Hispanics who "speak only English" have incomes in the two lowest categories. Conversely, Hispanics who speak both Spanish and English "very well" have larger percentages in the three highest income classes. People who speak English "very well" and who also speak Spanish have annual median and mean incomes that are about $2,000 higher than for Hispanics who "speak only English." It is important to note that the advantage gained by knowing both Spanish and English is lost if a person does not speak English "very well." In this case, the lower English proficiency counteracts the advantage of knowing Spanish. For example, Hispanics who speak Spanish and who speak English "well" have about the same incomes as Hispanics who "speak only English." Hispanics who speak Spanish and who speak English "not well" or "not at all" consistently have the lowest incomes.

The poverty percentages shown earlier in Table 6 reinforce the finding that Hispanics who know Spanish and can speak English "very well" are the best off economically. They have a somewhat lower percentage living in poverty than those who "speak only English" (14% vs. 17%). Again, it is clear that not knowing English "very well" cancels the advantage of being bilingual in Spanish and English. Hispanics who "speak only English" have a poverty rate that is almost identical to that for Hispanics who speak Spanish and speak English "well." Hispanics who speak Spanish and speak English "not well" or "not at all" have the highest poverty rates.

Although the data are not shown here, similar analysis using both educational attainment levels and occupation types indicate the same findings for the state's Hispanics. These data demonstrate clearly that Florida's Hispanics who speak Spanish and who speak English "very well" have the highest educational attainments and the best-paying jobs. Conversely, the Hispanics who do not speak English at all have the lowest education levels and the lowest paying jobs.

The figures shown in Tables 7 and 8 earlier in this chapter demonstrate that knowing Spanish and being able to speak English "very well" provides the same economic advantages for Hispanics living in Miami-Dade County as it does for those living in the rest of Florida. Hispanics living in metropolitan Miami who speak English "very well" and who also speak Spanish have the highest incomes (Table 7) and the lowest poverty rates (Table 8). A similar analysis of education and occupation data, not shown here, also demonstrates clearly that Miami's Hispanics who are bilingual in English and Spanish have the highest educational attainment levels and work in the best jobs when compared to Hispanics who "speak only English." These results suggest that there is a significant economic incentive for Hispanics in Miami-Dade County to speak Spanish in addition to speaking English "very well."

The results in this section provide powerful evidence in support of the concept that there are clear economic advantages in Florida and in Miami-Dade County for being bilingual in Spanish and English, especially if English is spoken "very well." These bilingual people have the highest incomes, the lowest poverty rates, the highest educational achievements, and the best jobs. Clearly, being

bilingual in Spanish and English provides opportunities for many people that are not available to monolingual residents. However, it is equally important to note that the advantage gained by being bilingual is lost if a person does not speak English "very well." The most socioeconomic opportunities are available to those who speak both Spanish and English "very well."

Non-Hispanics Who Speak a Language Other than English or Spanish in Florida

Although this section of the chapter has concentrated on Hispanics, it is relevant to ask how Florida's non-Hispanics, who speak a language in their homes that is not either English or Spanish, are affected by proficiency in English. Also, how does their bilingualism in English and the language they speak at home affect their socioeconomic status? The same four socioeconomic variables used to answer these questions for Hispanics were used in a similar analysis of non-Hispanics. The data are not shown in this section because they were repetitious of what was shown and discussed earlier in this section. Tables nearly identical to Tables 5 and 6 were used, except the figures they exhibited were for non-Hispanics instead of Hispanics.

English proficiency had the same affect on non-Hispanics that it did for Hispanics in Florida. Ability to speak English was just as important for non-Hispanics, who spoke a language other than English in their homes, as it was for Hispanics. As their ability to speak English increased, so did their socioeconomic status. Non-Hispanics who spoke English " very well" had the highest average incomes, the lowest percentage living in poverty, the highest average educational attainment, and the best jobs. Conversely, non-Hispanics who did not speak English at all had the lowest socioeconomic status.

It is especially interesting to note that being bilingual in English and some language other than Spanish does not produce the same beneficial results for non-Hispanics that speaking both Spanish and English does for Hispanics living in Florida. There is no consistent pattern indicating that higher socioeconomic status is linked to speaking a second language other than Spanish in Florida in addition to speaking English. Given the variety of these other languages and the much smaller numbers of people who speak them in Florida, these findings are reasonable. In 1990, there was not a sufficient number of people speaking these other languages to satisfy a threshold population that would make speaking any of them economically profitable. It is important to note that *this is not an argument against learning other foreign languages* because most of them can be useful in specific job situations. There are many jobs in the tourism and commerce sectors of Florida's economy where fluency in a second language, other than Spanish, can be economically rewarding. Furthermore, as Florida becomes increasingly connected to the global economic system, it is certain that its trade with countries in addition to those in Latin America and the Caribbean will increase, thereby providing additional economic incentives for becoming fluent in the languages spoken in these countries.

Summary and Conclusions

Immigration, especially since 1960, has very significantly affected the ethnic composition of Florida's population and the diversity of languages spoken in the state. Currently, Florida ranks third in the U.S. in the number of its residents who are immigrants. Today, there are almost 2 million

immigrants living in the state, coming from a wide variety of nations scattered throughout the world. Recent estimates indicate that almost 80% of the state's population growth has been generated by net migration. During the past 37 years Florida's ethnic composition has been transformed by this migration, from a state that was overwhelmingly non-Hispanic White (81%), with a sizable Black minority (17%) to one with much greater cultural and linguistic diversity. Today, about 14% of Florida's population is comprised of Hispanics, but there are also large numbers of immigrants from Europe and Asia living in the state.

Along with immigration and the ethnic changes that have been associated with it, the student bodies of Florida's public schools have become increasingly diverse culturally and linguistically. In 1996 16% of the state's students were living in families that spoke a language other than English in their homes. By the 2006 academic year this figure is projected to increase to 18%. The state's growing foreign born population has created economic opportunities for Florida's residents that did not exist earlier. Increasing trade with Latin American countries has been one of the most important consequences of this growth. Market opportunities within the state's domestic Hispanic market have also greatly increased. Knowing Spanish well enough to effectively communicate has taken on a new and positive meaning in metropolitan Miami. The increase in Hispanic students has been accompanied by a burden on Florida's schools to assist these students in developing proficiency in English because there is a direct and positive relationship between economic well-being and ability to speak English "well" or "very well."

The thought that it is not necessary to learn to speak English very well in Florida and Miami because of the presence of a large Hispanic population has been proven to be false. By any measure, it is clear that there are strong economic incentives for becoming fluent in English. People who speak English very well usually have higher incomes, lower poverty rates, higher educational attainment levels, and better jobs than those who have trouble speaking English. This is true for the state's Hispanics, and it is also true for non-Hispanics whose home language is other than English. It is true for Florida, and it is equally true for the Hispanic enclave in Miami-Dade County. This is why Hispanics, and other people who speak a language other than English at home, are learning English.

There are also significant and measurable advantages to speaking Spanish in addition to English in Florida. Hispanics who speak English very well and are fluent in Spanish tend to have higher socioeconomic status than Hispanics who speak only English in Miami and in the rest of Florida. The same advantages of being bilingual were not measurable for *non-Hispanics* who speak a language other than English in their homes. However, there is reason to believe that speaking a second language can prove to be an advantage even for these people in the future, as the number of these non-Hispanics increase through further immigration and as Florida strengthens its commercial ties with countries in Europe, Asia, and elsewhere.

The findings of this chapter strongly suggest that Florida's priorities should focus on teaching English to all residents of the state who do not speak English "well" or "very well," as well as teaching a second language to students who desire to learn one, especially if it is Spanish. The

problem with teaching immigrant students from Latin America was highlighted recently by a four-part series in *The Miami Herald* (Morales, 1997). Among other things it noted that students arriving in Florida from these countries come from two contrasting backgrounds that make it difficult to develop one program that fits them all equally well. Children of upper class families have attended elite private academies that often use English or American-style curricula to prepare them for future study in the U.S. The other system, used mainly by the poor majority, struggles to keep children in school in defiance of the region's notoriously high and stupefying dropout rate. Handling students from such different backgrounds presents a formidable challenge to Florida's schools.

Given the ethnic change that has affected Florida and the increasing ties that it has with Latin America, it is obvious that bilingualism in Spanish and English is a significant advantage that helps promote Florida as the gateway to Latin America. A recent survey of businesses in South Florida determined that 96% of the respondents supported the importance of maintaining and promoting a bilingual work force (Fradd, 1996; Fradd & Boswell, 1996). Students who already have a basic knowledge of Spanish and English because of their family backgrounds facilitate the bilingual training process. Because of this, Miami offers essential human resources for conducting business with Latin America and with Hispanics living in the United States that nowhere else in the country can match. While Spanish and English are important languages for conducting business in Florida, they are not the only languages that contribute to the state's economy. As Florida increasingly enters the world's global economy, it is almost certain to increase its commercial ties with foreign countries in addition to those with Latin America. It is likely that immigration from these non-Latin American countries will also increase. Both of these events, one impacting foreign markets for Florida-produced goods and services and the other impacting the local domestic market, can only increase the economic payoffs for becoming multilingual in English, Spanish, and other foreign languages in Florida.

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Issues in the Education of Florida's English Language Learners

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Abstract

Education is the essential means for promoting the scientific and technological literacy required for work force participation in the 21st century. The purpose of this paper is to consider current educational policies and practices in the state of Florida for meeting the work force needs of the 21st century. Although policies and practices concerning the instruction and assessment of students from non-English language backgrounds impact economic development, the relationship is not always direct or clear. First, the paper discusses the relationship between literacy and economic development. Next, two areas of educational policy, one specifically addressing the needs of students learning English as a new language and the other for all Florida public school students, are discussed. The paper concludes by summarizing issues regarding the inclusion of non-English language background students in the educational reform now under way in Florida's public schools.

Issues in the Education of Florida's English Language Learners

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Democratic nations depend on an educated public and a capable work force to make informed decisions beneficial to all society. Education is the essential means for promoting the scientific and technological literacy required for work force participation in the 21st century. Although policies and practices concerning the instruction and assessment of students from non-English language backgrounds impact economic development, the relationship is not always direct or clear. The purpose of this paper is to consider current educational policies and practices in the state of Florida for meeting the work force needs of the 21st century. First, the paper discusses the relationship between literacy and economic development. Next, two areas of educational policy, one specifically addressing the needs of students learning English as a new language and the other for all Florida public school students, are discussed. The paper concludes by summarizing issues regarding the inclusion of non-English language background students in the educational reform now under way in Florida's public schools.

Literacy and Economic Development

An educated work force is one in which problem-solving, innovation, and entrepreneurship thrive because highly skilled, resourceful employees are able to respond to the challenges and complexities of changing markets and work place environments. For such undertakings, high levels of literacy are essential. In this context, literacy refers not only the ability to read and write, but includes all aspects of effective social and academic communication. Literacy involves, for example, the ability to read and follow directions, to make predictions, to explain events, and to interact in social settings. In sum, literacy encompasses all aspects of oral and written communication. Because economic development is dependent on an educated work force, the development of literacy is central in sustaining economic development.

Important economic arenas in Florida include international as well as national and local markets (Fradd, 1996). In fact, Florida's international growth is the fastest area of economic development (Bureau of Economic Analysis, 1995a & b). Internationally, literacy in English may not be enough to conduct business. In order to participate in the global work force, biliteracy (literacy in more than one language) is essential. This section discusses the emergence of a global work force and currently available options for literacy development.

The Globalization of Florida's Economic System

United States' exports of services are growing faster than sales of manufactured or raw products. Nowhere is this growth observed more clearly than in Florida's expanding information-based, technologically-oriented service industry (Bureau of Economic Analysis, 1995a & b). This rapidly growing international industry requires specific kinds of human capital, such as effective communication, in-depth knowledge and skills, and an understanding of technology (Kanter, 1995).

The roles of languages and cross-cultural communication in facilitating trade and commerce are seldom considered in educational policies. Nevertheless, biliteracy and multilingualism are

becoming increasingly important aspects of work force preparation. In order to provide products, services, and technology, participants in an international, multilingual work force must also know how to effectively interact in the cultures in which business is conducted.

With increased economic globalization, policies impacting literacy are beginning to receive attention from many sectors of the business community. For example, in 1996 the Greater Miami Chamber of Commerce conducted a study to determine the importance of Spanish as a language of trade and commerce (Fradd, 1996). Several findings of the study are pertinent in understanding the link between education and economic development:

- the business community clearly and overwhelmingly recognizes the need for biliteracy in sustaining economic development.
- the current bilingual work force must be imported because it is not being educated in Florida or other parts of the United States.[1]

Since the study was released, the Chamber has established a Multilingual Task Force to promote the development of the work force required in South Florida. For more than a decade, the Miami-Dade County Public School Board has had a policy promoting biliteracy in grades K-12. With encouragement of the Chamber, in 1996 the Board began the organization of bilingual programs in feeder patterns from elementary to middle to high school, so that students who start biliteracy development at the elementary level can sustain it as they progress through the system. Such bilingual programs are being conceptualized not only to promote the learning of multiple languages, as in foreign language instruction, but also to provide content area instruction in mathematics, social studies, and science in those languages. The goal is fully developed biliteracy, including the ability to read, write, problem-solve, and effectively communicate in multiple languages. Recently, to support the newly developing programs, the School Board established a Multilingual Task Force to consider current work force needs and to create coherent programs to meet them.

Sustained international development, combined with possibilities for hemispheric free trade, make Florida a potential showcase for producing the work force of the 21st century (U.S. Bureau of the Census, 1994). Because of its strategic location, Florida has become a state where issues of literacy and language–learning are taking center stage (Florida Council on International Education, 1994).

Opportunities for Literacy Development

The Florida Department of Education, as well as many other state and federal agencies, use the term "Limited English Proficient (LEP)" to refer to students learning English as a new language. This and other terms referring to students learning English are under revision in Florida and nationally. To avoid connotations of limitation, students learning English are sometimes referred to as "English Language Learners." However, for purposes of this monograph, the acronym LEP is used with a new interpretation that underscores the strengths students bring to the learning process. The acronym LEP means "Language Enriched Pupils" and refers to students learning English as a new language. Although students from non-English language backgrounds must learn English, they are enriched with the knowledge of other languages.

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[1] Even though, according to the 1990 US Census, Miami is the most bilingual city in the nation (U. S. Bureau of the Census, 1994), less than 2% of Miami-Dade County Public School graduates complete academically demanding courses in Spanish at a level that enables them to enter the work force as biliterate. This outcome is particularly distressing since Spanish is, after English, the most widely spoken language in South Florida (Office of Management Information Services, 1996).

The term "non-English language background" does not infer language proficiency, but offers only an indication that students have a home language and culture in addition to English. LEPs represent that portion of the larger non-English language background population requiring specific instruction in order to develop English-language literacy. In Florida, this instruction is most often through English to Speakers of Other languages (ESOL). However, other options are also available.

It is an unfortunate reality that by the time students become "English proficient," not only are they no longer LEP in the sense of "limited in English proficiency," but they are often no longer LEP in the sense of "language enriched pupils." In Florida, and other parts of the United States, students often lose proficiency in their enriching languages as they acquire English. Issues of biliteracy and English instruction are discussed next.

Literacy development is a long-term process related to the strengths and skills students bring to school as well as those with which they leave. For monolingual English-proficient students, literacy development involves at least 12 years of formal instruction from kindergarten through high school. Literacy development often continues through post secondary programs in trade schools, colleges, or universities. Even more time is usually required to achieve the effective communication skills required for a specialized trade or profession.

Although it often goes unnoticed, non-English language background students who enter school with proficiency in languages other than English have potential advantages in literacy development. With effective instruction, non-English language background students can learn to effectively participate in the English-speaking world while building on the language knowledge they bring to school. When students fail to develop literacy in their home languages, the loss affects the students and their families; it also affects the potential development of Florida's multilingual work force.

Multilingual work force participation is not limited to non-English language background students. It is open to all students who would become biliterate. Thus, the advantage of proficiency in multiple languages can be extended to English-proficient students as well as students from other language backgrounds. When the language learning process and the programs that support it are viewed as *developmental*, enabling students to naturally acquire social and academic language proficiency, instead of *remedial*, repairing the language of students developing English proficiency, learning can involve English-proficient and LEP students. English-language literacy can be promoted in many ways. Some lead to biliteracy; others do not. Three widely-used options are discussed next.

Dual language or two-way bilingual instruction. In dual language or two-way bilingual programs, children proficient in English and children proficient in another language spend equivalent portions of the instructional day using both languages. Because two-way programs are developmental, rather than remedial, students enter the learning process as equals, with a language strength and a language-learning need. No one is ashamed because of a lack of proficiency in either language. In fact, these bilingual language programs often bring prestige because monolingual English-proficient students acquire a new language and students learning English expand proficiency in their home language as they acquire English. This type of bilingual learning brings community support as parents see their children becoming academically proficient and socially adept in communicating in multiple languages.

Transitional bilingual education programs. In the United States, the largest portion of bilingual programs are transitional, designed to provide instruction in the students' home language until students learn English. Because transitional programs are not designed to promote literacy in the home language, but only to serve as a bridge into English proficiency, home language instruction is paired with ESOL. Students typically attend transitional programs a few

hours a day or a week for six months to two years. Parents are sometimes unwilling for their children to participate in transitional programs that may be perceived as inferior to what students receive in regular classrooms. When the focus is on English literacy, students are typically eager to transition away from their home language and into English.

English to Speakers of Other Languages. For students from other language backgrounds in the United States, educational policies are designed to promote English-proficiency, not biliteracy. The most prevalent programs are referred to as "English to Speakers of Other Languages (ESOL)," a term that covers a great many options. In Florida most ESOL programs include both instruction in the English language and in content area instruction using ESOL strategies. In schools with large numbers of students receiving ESOL instruction, students may be grouped by proficiency levels so that those with minimal proficiency in English are taught together. As proficiency in English increases, LEP students may be transitioned to regular classes where most of the students are English-proficient and where the LEP students will continue to receive language arts instruction through ESOL programs. In districts where there are few students learning English as a new language, students may be grouped for a portion of the day to receive ESOL instruction.

Students acquire oral skills by using an English-only approach that includes movement, music, hands-on activities, realia, and various other ESOL strategies. Students begin literacy-development with instruction that combines oral and written communication including listening, speaking, reading, and writing. As proficiency increases, communication grows from words and phrases to sentences, and then to paragraphs. The time required for students to become English-proficient varies with the age of the students, their prior experiences with literacy in their home language, their prior experiences with English, and the tasks they are expected to perform. Most LEPs spend from six months to three years in ESOL instruction, and may be exited to full participation in regular classrooms before their English is on par with their age peers. Newly exited students identified as "English-proficient" often require instructional support from their classroom teachers in order to successfully participate in academic tasks.

Some individuals recommend "immersion," a treatment where students with little understanding of English are placed in English-only classrooms with little support and where they are expected to perform on par with their English-proficient age peers. Immersion can be equated with thrusting students into a pool of water and expecting them to swim. Although immersion is considered by some as the best way to ensure students learn English, in U. S. schools, it is not an instructional approach, but a lack of instruction. In Florida, it has been illegal since the establishment of the Consent Decree in 1990 (League, 1990).

Psychological Implications of Instructional Options

There are predictable psychological consequences as well as educational outcomes associated with the options discussed above. When proficiency in English becomes the only goal or instructional outcome, students tend to avoid being identified as speakers of other languages. However, the opposite also occurs. Students who have difficulty understanding and making themselves understood in English often decide not to learn it, and as a consequence, frequently drop out of school. For those who do not learn English, the burden of unrealized potential and limited employment opportunities are stark realities. For those who choose the English-only option, the loss of bilingual language proficiency becomes apparent later when, as adults, they are denied employment opportunities in favor of biliterate applicants from other countries.

The choice of whether to maintain or discard a language is more than a personal or family preference. When such choices are made on a large scale, as occurs throughout Florida, the impact brings important economic consequences. Few Florida school districts offer dual or two-way language programs. A small number provide transitional bilingual instruction. Since the

implementation of the Consent Decree, all districts emphasize English proficiency, most through ESOL instruction.

Although the most apparent unfortunate consequence of an emphasis on English to the exclusion of other languages is for students from other language backgrounds, the consequences affect students from monolingual English homes too. An English-only emphasis does not encourage native English-speakers to value other languages and cultures and to be motivated to acquire additional languages or to relate to other cultures. As Florida seeks to promote higher levels of employment and economic development for high school and college graduates, it must import, rather than develop, the international expertise to conduct business in languages other than English. In spite of the wealth of language learning opportunities in Florida, few biliterate students graduate from Florida schools. In an era when policies limiting immigration prevail, emphasis on English to the exclusion of other languages has negative consequences for everyone in Florida.

Overview of Policies for Educating Students Learning English

The value of English-language literacy is undeniable, both at the individual level and in terms of work force participation. This section focuses on two areas of Florida policies relevant to LEPs' opportunities to develop English-language literacy: (a) specific policies for LEPs, and (b) general policies for all students, including LEPs.

Florida's Educational Policies for English Language Learners

In spite of the rapid growth in the numbers of non-English language background students over the past four decades, it was not until 1990, when Florida was confronted with dramatic legal consequences, that a large body of policies were established with regard to LEPs' access to educational opportunities. Rather than face potentially protracted, costly litigation resulting from a class action suit on behalf of non-English language background students alleging limited access to appropriate instruction, the State entered into a Consent Decree (League, 1990) to ensure equitable educational opportunities for Florida's LEPs public schools. The Consent Decree put school districts on notice that policies and practices had to be changed. According to the Decree, LEPs are to be provided meaningful instruction to ensure English-language literacy and academic achievement.

The Consent Decree was implemented in 1991, and though there were no major international events to create high levels of immigration, two years later, in 1993, the number of LEPs identified statewide nearly doubled (Florida Department of Education, 1995; Florida Management Education Services, 1994). The number of LEPs continues to grow as the identification process becomes more systematic. As a result of increased attention to assessment procedures, almost all 67 of Florida's districts have identified LEPs (Florida Department of Education, 1996a). Thus, the impact of the Consent Decree is one of statewide concern.

The Decree contains six areas of educational policy, summarized here under three headings: (a) identification and assessment, (b) access to appropriate instruction, and (c) monitoring and other procedures to ensure effective outcomes.

Identification and Assessment

When students enroll, school districts are required to conduct a brief screening to determine the presence of a language other than English in students' language development. If another language is noted in students' language development, proficiency in English must be assessed. Districts must use tests from a list approved by the Florida Department of Education to assess students' English proficiency in listening and speaking. Some tests on this list were developed nationally; others are local school districts products. In grades 4-12, students are also given English language reading and writing texts. Based on the results of these tests, in combination

with professional judgment, students determined to require English language instruction are placed in ESOL programs. Exit from ESOL also requires assessment using oral and written tests.

Every school with students learning English is required to form a "LEP Committee" composed of the students' ESOL teacher, the guidance counselor, an administrator, and other teachers and personnel as needed to make educational decisions about students' instructional needs. Parents of the students about whom the decisions are to be made are notified of the LEP Committee meeting in their home languages and encouraged to participate. LEP Committee meetings are called when students' progress is questioned. Committee members are involved in deciding when students should transition out of ESOL and in determining instructional supports to address students' unique learning needs. The presence of the LEP Committee underscores the importance of shared responsibility for providing students with access to effective instruction. It is clear that the responsibility is shared school-wide, and cannot be relegated solely to ESOL or classroom teachers.

Access to Appropriate Instruction

Because the Consent Decree established that students be provided comprehensible instruction in English-language literacy and subject matter content, instruction for LEPs must reflect ESOL strategies that ensure students acquire literacy. No specific curricula for LEPs have been designated at the state level because students are expected to have access to a full curriculum on par with their English-proficient peers.

There is no reference to "bilingual education" in the Consent Decree. However, when at least 15 LEP students with the same home language are identified in the same school, home language instruction must be provided to ensure students understand and have meaningful access to basic subject area content. Such instruction can be provided by a credentialed teacher or paraprofessional proficient in the students' home languages.

The local impact of the instructional requirements for LEPs has not been the same across the state. In north Florida, for example, with parental consent, districts with few LEPs may bus them to a central site for ESOL instruction. In south Florida, where there are concentrations of LEPs, it is not uncommon to find comprehensive programs in many schools. LEPs may be enrolled in programs for the gifted, exceptional student education, or Title I programs as their instructional needs indicate, regardless of English proficiency. Whether there are a few or many LEPs, districts are responsible for providing students with appropriate instruction.

Monitoring and Other Procedures to Promote Academic Achievement

Professional credentialing requirements growing out of the Consent Decree have been one of the most far reaching aspects of the Decree's implementation. When the Decree was initiated statewide, only a limited number of trained school personnel were credentialed for ESOL instruction. Since the Decree, both district and university ESOL programs have increased substantially.

As a result of the Decree, all school personnel working with LEPs are required to have specific credentials. In 1990, because of the scarcity of personnel preparation programs for ESOL statewide, districts were given five years to develop the cadre of personnel needed to meet state requirements. As a consequence, districts have had to offer massive in-service programs. With the 1997-1998 school year, all personnel working with LEPs must meet credentialing requirements.

In-service credentialing requirements range from 18 in-service hours for school administrators, school psychologists, speech pathologists, and social workers, to 300 hours for classroom teachers providing language arts instruction for LEPs. For these teachers, the 300 hours may also be obtained through five specific university courses in language assessment,

instructional methods, curriculum, linguistics, and culture. This level of preparation is equivalent to almost half a master's degree. The purpose of the ESOL endorsement is to enable educators to recognize the specific instructional needs of LEPs and to promote effective assessment and instructional practices. This body of knowledge and skills is particularly important in providing experiential, hands-on activities that build students' English proficiency in oral and written contexts. Although credentialing can be completed through university programs, most personnel participate in free district in-service programs.

No university program support nor state credentialing is specifically required for teachers to provide LEP students with instruction in languages other than English. There is also no bilingual teaching credential in Florida.

Beyond credentialing, districts have to meet many other monitoring requirements. For example, teachers must develop individual instructional plans, referred to as "LEP Student Plans," for all students enrolled in ESOL programs. These written plans are designed to provide a record of district efforts to ensure students' access to quality programming. In addition to compliance with policy requirements, LEP Student Plans can be used to encourage individualized programming, to document students' progress in learning English, and to reflect parental participation in the educational process.

Comprehensive district "LEP Plans" must also be submitted to the state every three years for review and approval. Once the district plan is approved, annual self-evaluation reports of district efforts in implementation must also be submitted. One important aspect of the district plan is the process of monitoring students' academic progress after transitioning out of ESOL instruction.

An additional component of the monitoring process includes a district wide LEP Leadership Council composed of parents and community members whose advice must be sought by the district regarding edicational issues concerning LEPs. This committe serves as an advisory group to promote community participation and parental involvement in the educational process.

Educational Policies for All Florida Public School Students

Florida's public education system is undergoing massive changes, not just for LEPs, but for all students and for teachers. According to the Sunshine State Standards, as contained in the Florida Curriculum Frameworks, "An increasingly service-oriented, information-based society that is virtually exploding with expanding knowledge demands that everyone have the opportunity to acquire the necessary skills to succeed in the information age" (Florida Department of Education, 1996b, p. 1). Among the many innovations occurring within the educational process, three are salient in the state's efforts to ensure academic achievement for all students: (a) the curriculum standards students are expected to achieve, (b) the assessment procedures used to determine students' academic performance, and (c) the procedures for identifying schools and districts where students are not making satisfactory academic progress. These policy requirements are discussed next.

The Sunshine State Standards

Reform to increase student performance requires high expectations grounded in a foundation of literacy and an instructional environment organized to promote learning. The Sunshine State Standards are central in the state's educational reform process. They provide local school districts with a map of academic expectations and the guidelines for achieving them. These include three important areas of information: (a) delineation of the knowledge and skills students are expected to learn, (b) examples of how students can demonstrate their knowledge and skills, and (c) suggestions for professional development to promote student achievement. The Standards are organized into four grade level clusters -- preK-2, 3-5, 6-8, and 9-12. To date, the Standards

have been developed for seven subject areas: language arts, mathematics, science, social studies, the arts, health and physical education, and foreign languages. No standards have been developed specifically for ESOL instruction. Instead, suggestions for accommodating LEPs' learning needs are included in the Standards documents. Schools are responsible for ensuring that students have access to comprehensible instruction. In addition, students must be provided instruction appropriate to their level of knowledge and understanding of subject area content.

State Assessment Procedures to Determine Academic Performance

In addition to requiring student performance data from standardized, nationally normed assessment procedures, Florida has developed its own set of procedures to determine student performance at various grade levels. The High School Competency Test, the newly developed Florida Comprehensive Assessment Test, and the Florida Writing Assessment Program (Florida Writes!) are the key components of Florida's state-designed assessment system. These assessment procedures are to be used with all students, with special guidelines developed for accommodating LEPs (Mosrie, 1996). These tests and accommodations for LEPs are discussed next.

High School Competency Test (HSCT). In order to earn a standard high school diploma in Florida, all students are required to pass the communications and mathematics sections of the High School Competency Test, a multiple-choice, untimed measure of basic communications and mathematics skills for real life situations. Students are eligible to take the HSCT in the fall of eleventh grade (School Board of Broward County, 1996). For LEPs, accommodations on the HSCT include additional time, the use of bilingual dictionaries, separate testing rooms, and basic explanations of testing procedures in students' home languages (Mosrie, 1996).

Florida Comprehensive Assessment Test (FCAT). As part of the state school accountability program, the FCAT is aligned with Florida's Sunshine State Standards which "clearly identify what Florida public school students should know and be able to do" (Florida Department of Education, 1996c, p. 14). Students are assessed in four grade level clusters: (a) Pre-K-2, (b) 3-5, (c) 6-8, and (d) 9-12. This new criterion-referenced achievement test of reading and mathematics includes multiple-choice, short answer, and extended response items. The FCAT has been administered throughout the state in the spring of 1998 and in the spring of 1999 will be used for accountability (Florida Department of Education, 1996c). FCAT accommodations for LEPs are similar to those for the HSCT (Mosrie, 1996).

Florida Writes! In 1990 the Florida Legislature mandated assessment of writing proficiency in Grades 4, 8, and 10 statewide. This led to the establishment of the Florida Writing Assessment Program, known as Florida Writes! On the Florida Writes! students are given a prompt presenting a topic and directions for writing responses. To ensure students acquire the ability to write using a variety of genre, expository and narrative prompts are used in Grade 4; expository and persuasive prompts are used in Grades 8 and 10.

During the assessment period, multiple prompts are used within the same classroom, although students respond to only one randomly selected prompt. Students' writing samples are sent to the Florida Department of Education to be independently rated by two readers. Specific aspects of written discourse are considered in evaluating the overall quality of the samples, including the organization of ideas and the accurate use of writing conventions, such as spelling, punctuation, and capitalization (Florida Department of Education, 1996c). English-proficient students must complete the assessment in 45 minutes. Accommodations for LEPs include additional time, bilingual dictionaries, separate testing rooms, and test directions in the students' home languages (Mosrie, 1996).

Procedures for Identifying Low Achieving Schools

The Sunshine State Standards and assessment procedures to determine student progress are two important tools for promoting academic achievement. Because the state is focusing on increasing student performance, it has also established a set of criteria for implementing improvement and accountability programs (Office of School Improvement, nd). The result is the identification of "critically low performing schools" where students are not performing at established criteria. By identifying these schools, the state can focus attention and resources on specific instructional needs. Across the state, these schools have been required to develop procedures for improving student performance. Most of the critically low performing schools have at least two common characteristics: (a) high poverty levels, and (b) high percentages of minority students (Brogan, nd).

Identification of critically low-performing schools has had both an energizing and a chilling effect on the instructional process. At the same time that schools have been energized through an infusion of resources and new programs to promote achievement, the public humiliation that occurs when the schools were identified in the media has been difficult for many of the teachers and administrators to accept.

Only time will tell whether the educational treatments given to the schools persisting on the critically low list actually promote academic achievement. In the short term, several important outcomes are being accomplished. Specific standards and measures are being used to define achievement and to hold schools accountable for students' progress. School district personnel, communities, and the public are growing increasingly aware of the Florida Department of Education's expectations for academic achievement. These may be the most significant outcomes for the students, their families and communities, the business community, and the state.

The Challenges and Opportunities

Because Florida is one of the major entry ways for newly arrived non-English language background students and families, its public schools face challenges not experienced by many other states. These challenges may be seen as the vanguard for the future of public schools across the nation. As Florida effectively addresses its challenges, it is not only increasing the educational level of its work force, but also providing important benchmarks for other states with growing numbers of LEPs. For most of this decade, Florida school districts have been highly impacted by the presence of LEPs and the policies to provide them with an appropriate education. Although districts have responded to the requirements of the Consent Decree, LEPs have often been viewed as presenting unique challenges, rather than bringing assets to be valued. As a result, the potential strengths and opportunities these students represent sometimes go unrecognized.

Florida faces at least three different types of challenges in educating LEPs: (a) the need for effective personnel to fully implement educational policies; (b) a commitment to equity in achieving academic excellence; and (c) leadership in creating a unified vision of educational outcomes. With increased international trade and an expanding global market, the presence of LEPs will continue to grow statewide. Recognizing the opportunities and the challenges of educating LEPs can promote educational reform that can benefit many areas of the state's development.

The Need for Effective Personnel

Although the challenge of not having sufficient credentialed personnel to instruct students learning English has been addressed over the past five years, a shortage continues. As sustained growth of the non-English language background population brings new students with diverse languages, demand surpasses supply. Universities and school districts are working together to prepare personnel with the knowledge and skills to instruct and assist LEPs. Through shared responsibility and collaboration, universities and school districts are becoming more linked in preparing teachers, administrators, and support personnel. Developing programs requires

commitment to quality and the funding to support it. A challenge lies in ensuring that all Florida teachers working with LEPs know how to provide instruction that enables them to achieve the Sunshine State Standards.

The issue of increasing diversity is only part of the challenge of addressing demographic change. An additional challenge comes from an on-going need for school personnel who recognize the unique and important strengths that LEP students and their families represent to Florida and to the nation. Unless teachers, administrators, and support personnel believe that teaching LEPs is valued, the training they receive will contribute little to the instructional process. An opportunity lies in increasing the awareness of the importance of biliteracy and of providing both English-proficient and students learning English with the educational opportunities that meet the demands of an international work force.

Commitment to Access to Equity and Academic Excellence

As the movement for educational reform grows, the education level of the work force should also increase. However, if the learning requirements of LEPs are not fully included in reform efforts, or if their needs are treated as less important and compelling than those of English-proficient students, the impact of reform will be diminished. An example regarding the implementation of the Consent Decree suggests how reform efforts can be subverted when school personnel avoid addressing issues of access in organizing effective instruction. In spite of comprehensive publications, conferences, and personal interactions with state leaders, five years after the Decree's implementation, teachers and administrators continue to express confusion about policies and procedures. A challenge lies in recognizing the efforts being made to implement effective programs and support them, while changing the attitudes and practices that prevent students' access to effective instruction. Unless there is a strong commitment to equity and achievement, programs may comply with the letter, but not the spirit of reform. Another challenge lies in creating accountability procedures that go beyond measuring student performance and identifying under-performing schools to promoting achievement for all students, especially those in areas of high poverty and from minority backgrounds. An opportunity lies in creating programs that move whole schools and school districts forward to higher levels of performance and competence.

In considering these challenges and opportunities, it is important to focus on instructional outcomes summarized in Table 1 below.

TABLE 1. INSTRUCTIONAL DESIGNS AND OUTCOMES

Instruction Design	Outcomes for LEPs	Outcomes of All Florida Students
A focus on ESOL only instruction	English literacy	No Impact
A focus on transitional bilingual instruction	Potential biliteracy	No Impact
A focus on dual language, two-way bilingual instruction	Potential biliteracy	Potential biliteracy

The Power of a Unified Vision

The need for skillful, effective school personnel to work with LEPs will continue as sustained immigration, high birth rates, and economic development expand the global market place. During the next several decades the educational opportunities made available for students from non-English language backgrounds will play an increasingly important role in Florida's

economic development. The time has come to develop a shared vision of the importance of educating *all* Florida students. Three ingredients are central for developing such a vision: (a) research-based knowledge of effective educational practices; (b) a commitment on the part of policy makers, the business community, and school district personnel for promoting academic excellence; and (c) public recognition of the shared goal of high academic standards for all students. The development of a multilingual work force must become part of the high standards for which students strive to achieve. To attain this outcome, the value of biliteracy and the importance of multilingualism must be made clear to the public. A challenge lies in creating the leadership necessary to create a vision of the value of biliteracy that policy makers and the business community can become actively committed to promoting.

The knowledge base of effective instruction is already available -- much of it is presented in this monograph. The opportunities lie in fully implementing the educational policies, promoting the development of a global work force, and creating the leadership to achieve it. Only by establishing a clear understanding of requirements of the work force for the 21st century can we create the vision for turning challenges into opportunities in which everyone benefits.

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Literacy Development for Language Enriched Pupils through English Language Arts Instruction

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Abstract

This paper considers the importance of standards-based English language arts instruction for students learning English as a new language. It compares and contrasts language arts instruction for students who are fully English proficient and students acquiring English as a new language. For language enriched pupils, the importance of both social and academic language development that promotes literacy is central to the instructional process. The paper also suggests ways that English language arts instruction can be modified to promote academic and social language development for all students, including those enriched with other languages.

Literacy Development for Language Enriched Pupils through English Language Arts Instruction

Sandra H. Fradd

Students learning English as a new language have to tackle the difficult task of developing English proficiency, including the sounds and the ways that English is used, as they also gain an understanding of the culture of English language speakers. To communicate fluently and effectively, these students must internalize the rules governing English language use so that their speech comes easily and naturally. In addition to learning how to communicate effectively in school contexts, students enriched with other languages must learn how to use the English shared by their teachers and English-proficient peers. The task of learning English requires that students learn not only to comprehend and communicate in interactive social settings where they can gain understanding by observing and by doing, but also to grasp meanings and understandings not evident in classroom activities.

Imagine learning the rules of communication in Arabic by using Arabic, but without being proficient in it. Certainly that task would not be simple or easy. Yet, that is essentially the task that Language Enriched Pupils (LEPs) must perform in order to become proficient in English. And, they must learn English not only to fulfill district and state requirements, but also to effectively participate in the world in which English is used.

This paper considers the importance of standards-based English language arts instruction for students learning English as a new language. It compares and contrasts language arts instruction for students who are fully English proficient and students acquiring English as a new language. For LEPs, the importance of both social and academic language development that promotes literacy is central to the instructional process. The paper also suggests ways that English language arts instruction can be modified to promote academic and social language development for all students, including those enriched with other languages.

Standards-based Instruction

The overall goals for teaching English to Speakers of Other Languages (ESOL) and English language arts instruction are similar. They both relate to the mastery of English as a medium for effective communication. In the national standards developed for these two areas, for example, the statement that students write for a variety of audiences appears in both sets of standards (National Council of Teachers of English [NCTE] & The International Reading Association [IRA], 1996; Teachers of English to Speakers of Other Languages [TESOL], 1997). This overlap is natural since both ESOL and English language arts have the English language as the primary content. A similar overlap between ESOL and English language arts can also be seen in the focus of instruction. Over the last decade, the focus of English language arts has begun to include functional uses of English and to replace an earlier emphasis on the form and rules of language. English language arts instruction involves the use of English for everyday communication, including development of appropriate language use, rather than the development of knowledge about the language. Thus, for students learning English, the distinction between ESOL and English language arts instruction may not be obvious, since all of the students are engaged in learning to use English

effectively. The important difference is that students learning English as a new language come to the learning process with a different framework for communicating and a lack of experiences and understandings about the language that English-proficient students already possess.

National Standards

Standards have been developed at the national, state, and district levels. Goals 2000 was one of the primary forces that drove schools to implement systemic education reforms designed to assist all students to reach challenging academic standards. Despite the call for high standards for all students, nowhere in the original work of the National Education Goals Panel did the issue of students learning English as a new language appear. Although the term "all students" is used in many standards documents, only minor sections of some standards documents are devoted to helping disadvantaged students and addressing the needs of students in exceptional education programs. No reference is made to the special needs of students for whom English is an additional language (August, Hakuta, & Pompa, 1994). Unfortunately, apart from acknowledging that LEPs have learning needs different from their English-proficient peers and valuing the diversity that LEPs bring to the classroom, the standards do not offer specific help to teachers who have these students in their classrooms.

In order to fill the gap between the instructional requirements of English-proficient students and students learning English as a new language, the national professional organization that serves teachers of LEPs, Teachers of English to Speakers of Other Languages (TESOL) developed ESOL standards for pre-K-12 students (TESOL, 1997). Florida is in the process of developing a document that links the national TESOL standards with the Sunshine State Standards, so that teachers can have an easily accessible reference in both areas.

The national standards in English language arts (NCTE & IRA, 1996) holistically integrate instruction in various aspects of functional language use. For example, the first standard states that students should read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world. The specifics of language, such as understanding sound-letter correspondence and sentence structure, are embedded into more functional goals of reading, writing, speaking, and listening. Such a holistic approach, as taken in the national standards, impacts not only the way English language arts is taught but how the language-learning process is conceptualized.

National English language arts standards are grounded in the social and cultural contexts that surround language use. For example, in the standards students are encouraged to participate as knowledgeable, reflective, reactive, and critical members of literacy communities. This encouragement can be both a help and a hindrance for learning English. Students can benefit from English language arts classes that have a social focus as long as they are aware of the rules for social participation. They can benefit from a focus on cultural understanding, if their own cultures are reflected and valued, and if instruction is made relevant to their prior experiences and learning needs. However, if LEPs do not know the rules of behavior and the norms and values of the larger community, they may be at a loss during instruction and may perform poorly, unless such insights are made explicit.

Florida's Language Arts Standards

Florida's Language Arts Standards, the Sunshine State Language Arts Standards, although quite similar in approach and general orientation to the national standards, differ from the national set in content, and organization toward including LEPs languages and cultures in the instructional process. Because the Sunshine State Standards are grouped in individual language strands, such as listening/comprehending/communicating, reading, and writing, they are not as holistic as the national language arts standards. However, the content of the specific standards is quite functional. The Sunshine State Standards can guide teachers in creating an environment that provides LEPs with comprehensible, meaningful input. The national standards clearly suggest that not only should

instruction acknowledge the existence of languages other than English in the students' homes, but also consider these languages as important attributes in the learning process. It is important that the English language arts instruction draws on, rather than sidesteps, the cultural and linguistic diversity of contemporary U.S. schools. This point, although not directly acknowledged in the state standards, is addressed in the supporting material that occurs as a part of the standards documents.

Both the national and state standards describe the language skills necessary for social and academic participation. They are based on principles that constitute an overarching vision of effective education to serve as the context for language arts instruction. Effective education for LEPs must have as a goal native-like proficiency in English. Students must develop high levels of proficiency in English in order to learn and demonstrate learning in all academic areas. English language proficiency, however, need not replace proficiency in students' native language, and can even support literacy development in English.

The main difficulty facing LEPs in attaining the standards is the lack of basic language proficiency in comparison with their English-speaking counterparts. The standards assume that students have the proficiency in English to perform many tasks and activities, such as gaining attention and asking for explanations or clarifications. Application of the English language arts standards requires adaptations to address the needs of both English-proficient and LEPs.

The Overlap between English as a New Language and English Language Arts

There are both similarities and differences in the English language arts instruction for students who are fully English proficient and those learning English as a new language. Although LEPs should not be held to a different set of standards for learning and using English, they cannot be expected to use English with the same level of proficiency as students for whom it is a first language. Both opportunities to use language in meaningful contexts and effective instruction that ensures the availability of these opportunities are essential to achieve the important outcome of becoming English-proficient.

There are essential differences in the ways that English is taught to students who are developing proficiency and those who are native users of English. Because students learning English do not have the same framework for participating and communication as English-proficient students, they must develop both the specific language components and the larger understanding of how English is used. Many LEPs possess the knowledge and skills for effective communication in their native language which serves as a foundation for comparable development in English.

Students learning English as a new language require many opportunities to observe, understand, and use English in concrete contexts before they can fully participate in classroom discourse. Initial instruction in contextually meaningful, concrete settings is sometimes referred to as "social language" development. Contextualizing language by making it meaningful and relevant to learners' experiences and interests enables them to participate, communicate, and interact with others effectively by watching and doing what others do. Once students can communicate about their personal experiences and events occurring in the classroom environment, they begin to develop the "academic language" required for communicating about more abstract, less observable ideas and concepts with which students may have little personal experience. Without the initial development of language in social contexts, many students fail to acquire the understanding of academic language required for successful classroom participation in content area instruction.

The distinction between social and academic language instruction is an important one in making language meaningful and relevant. This distinction is also important in selecting the specific lessons and activities in which students are expected to engage. Language that is meaningful through environmental clues and observable interactions provides students with a

framework for accessing the less observable, abstract aspects of communication. Several examples serve to clarify this distinction. Many LEPs may initially have difficulty with phonics instruction. At first, they may not even hear important differences in the sounds that make up words. For example, students from language backgrounds that do not differentiate between /th/ and /t/ may have difficulty distinguishing between the words /those/ and /toes/. However, once students begin to associate the two words with their respective meanings, the sounds actually become easier to hear and segment. At that point, phonics instruction may also become more meaningful and appropriate. For students who are unable to differentiate among sounds, focusing on discrete word parts instead of meaningful whole words and phrases can cause learning difficulties. Such instruction may even retard, rather than enhance the learning process. As a result, initial language instruction with a strong focus on phonics may not be as effective as lessons focusing on purposeful communication.

As students gain control over English, they learn to use the language patterns available in the environment in which they are communicating. Important differences between native and non-native speakers of English can be found in the use of environmental language patterns. For example, in response to the question, "What causes ice to melt?" a student answering, "What causes ice to melt is heat," is revealing a dependency on the communicative pattern used by the teacher or, in the case of written text, the author of the question. This communication pattern is not typical of native English speakers. Such student responses reveal an important language learning strategy, utilizing the language patterns available within the environment to develop personal communication. Teachers identifying non-native communication patterns, such as the one exemplified here, can celebrate students' ability to access the language necessary to make meaning as they show the students how to produce more native-like responses, such as, "Heat causes ice to melt."

Many students are not familiar with the process of analyzing and talking about language as a set of components, such as verbs, nouns, adjectives, and other parts of speech. For these students, lessons requiring the identification and the analysis of language components, such as "agents" and "actions," may initially be confusing and meaningless. Other students, especially older learners, may be highly effective in stating grammatical rules, but unable to use language to effectively communicate. Knowledge of the grammatical rules, while important, does not ensure that students can effectively communicate. In order to be effective communicators in written and oral contexts, students need to understand how to analyze language and apply grammatical rules as well as to develop their own awareness of how the language system works.

Effective communication requires an understanding of how to use oral and written language in a variety of settings. In identifying the instructional needs of English language learners, it is important not only to recognize the range of learning requirements within a classroom, but to understand how these needs may be similar to as well as different from those of typical English-proficient students. Recognition that LEPs have both similar and different language-learning needs from English-proficient students is an essential starting point for the instructional process. Recognizing when students are making even small advances in their ability to communicate effectively is also central in meeting their language-learning needs. Celebrating the advances that students make is a part of providing motivational support for the instructional process. The process of providing students with feedback that lets them know when they are making progress and encourages them to continue learning to communicate effectively. The process can become even more valuable if it also positively signals specific ways that communication can become more effective. This language instruction process is not simple or easy, especially if teachers are accustomed to interacting only with students who are English-proficient, but it is essential in ensuring that students learning English have the opportunities to acquire the language proficiency of their English-proficient peers.

Promoting Literacy Development

English language arts, especially at the upper grades, can be one of the more difficult subjects for LEPs. Unlike other academic content areas, such as science and mathematics, English language arts does not lend itself to hands-on, activity-based teaching. As a result, language arts instruction is language-dependent and less easily observable than in other subject areas. However, by using a functional, communicative approach, as suggested by the professional organizations in the field (NCTE & IRA, 1996), subject matter can be made more accessible and meaningful. This approach uses language in context, rather than phonics, as an initial approach to English language learning.

Instruction

Many schools provide LEPs with instruction in native language arts because these skills offer an important foundation for learning English. The skills learners develop in their native languages can be used to understand and use English. Native language proficiency is a predictor of the ease with which students will acquire English. Students who have the opportunity to learn academic content in their native language as they are gaining fluency in English are more likely to succeed in school than students who learn through English only.

Because literacy development for LEPs includes reading and writing for a wide range of purposes, students require exposure to a variety of print and non-print texts appropriate for their particular ages and interests. Literacy development involves much more than breaking the written code in order to gain access to the words, or even to comprehend and answer questions. Becoming literate also involves understanding authors' intents and styles, the ways that language is used to achieve specific purposes, and the similarities and differences in the ways that authors use language. It also includes using written and spoken English for students' own purposes.

Because all students must learn to use a range of reading and writing strategies, students developing English proficiency must become skillful in using the effective strategies of English-proficient students. In addition, they may require strategies specific to their own language learning needs. For example, they may need to learn to ask themselves questions to ensure they are comprehending and being comprehensible. They may need to learn to identify words and phrases they have difficulty producing or understanding, and practice using these in different contexts. They may review and revise the texts they produce to determine if they have used the correct word order or choice. Although these are strategies that native English-speakers also use, the level of complexity and the frequency and specificity with which effective LEPs carry out comprehension checks is different.

Students acquiring English must learn to ask basic, concrete questions, such as who are the people involved in the story and specifically what these people are doing. They may need more frequent opportunities to review their understandings to ensure that they are comprehending what is being presented to them. For some students, especially those from cultures where question-asking is not a valued way of interacting with adults, learning to ask questions may be a difficult, but important process. In addition, once students have obtained the answers to their questions, they must learn how to apply the information appropriately. Teachers and peers can model the process of asking and answering questions and applying information to illustrate which are the appropriate questions to ask, and how to use information to promote communication and comprehension. Such strategies can be labor-intensive and time-consuming. Teachers can encourage students' efforts in learning to access and use information and to check comprehension by providing them with many instructional supports, such as relevant visuals, opportunities to rephrase and state their understandings, and opportunities to work with peer collaborators. They can also provide students with ample opportunities for using oral and written language meaningfully.

Assessment

Assessment of English language arts continues to pose a challenge for most school districts. Although many measures of English language proficiency exist for LEPs, few accurately measure students' performance in using academic language (LaCelle-Peterson & Rivera, 1994). In fact, Florida has a wide range of approved language assessment procedures, most of which do not agree on what constitutes full English proficiency. Many language proficiency tests require brief, often single word answers. Few involve meaningful, purposeful communication. Most focus on social, as opposed to academic, language tasks. As a result, teachers may be surprised to find that students determined to be English-proficient have difficulty effectively participating in English-only instruction without a great deal of specific support to promote comprehension. In interpreting the results of language proficiency tests for their particular students, teachers may want to look at the test items and consider whether tests used to determine proficiency accurately reflect the language of the classroom. If the answer is "yes," then students identified as "proficient" should not have serious difficulties participating effectively. However, if the answer is "no," more informal measures may be needed to determine students' specific learning requirements.

In terms of measuring students' academic performance, Florida is moving rapidly toward requiring all students be assessed with the same academic contents, regardless of their proficiency in English. It is important to keep in mind that for students who are not fully proficient in English, all assessment procedures are measures of academic language proficiency as well as academic performance. In order for students to acquire the language needed to participate in academic contents, reading and writing as well as speaking and comprehending must be an central part of the instructional process from the beginning. Although the ways that literacy is presented may be different for English-proficient students and LEPs, no students should wait until they are effective in oral communication to participate in meaningful literacy activities.

The written and oral performance of students learning English should not be the topic of classroom discussion. Even publicly reflecting on students' effort, growth, and movement toward desired outcomes and performance levels can negatively impact some students. Neither should the work of English-proficient students be compared with the work of students learning English. Reflections of students' progress, rather than their limitations, can often be carried out most effectively in private individual or small group conversations. Teachers must be aware that students with little skill in using English are in transition toward becoming effective communicators. When provided with appropriate models, opportunities, and expectations, LEPs may produce surprising outcomes. When encouraged to share their understandings, they may have new and important insights. Because their backgrounds and prior experiences may be different from their English-proficient peers, LEPs may have creative and engaging ways of communicating. As teachers and students become comfortable with the second language learning process, they can celebrate the successes that promote students' movement toward full English proficiency.

Curriculum

An effective way to learn the rules for effectively using English is to approach language learning from a practical and functional perspective. For babies and young children, language is initially acquired as a meaningful whole, rather than as discrete parts that focus on rules instead of meaning. Thus, for students learning a new language, rules are also best taught in meaningful contexts. Although the debate between proponents of a holistic approach and those of a phonics approach continues, it is clear that initially teaching language as a whole is more effective for LEPs than teaching the separate rules individually. Once a meaningful context has been established, however, specific rules can be highlighted and taught. For example, a story can be read with dramatization, pictures, and other strategies that help LEPs understand the meaning and become used to the new language introduced. Once that has been done, the teacher can identify specific words and explain phonetic or grammar rules, as the curriculum and the students' needs indicate.

Language that is taught for functional purposes has personal meaning grounded in the culture and the needs of the learner. Students must learn different ways to interact and communicate, such as how to settle arguments, how to work collaboratively in dyads and small groups, how to strategize and plan, and how to compete with one another. Various norms regarding authority figures, family members, and peers can become the basis for meaningful lessons as well as opportunities to communicate and share. The purpose of learning language must be clear and meaningful to the learners. The learners' interests and daily life experiences provide an important component in engaging students in meaningful discourse. Large amounts of self-selected, easy, and interesting reading provide an important underpinning for reading instruction. Opportunities to write about personal ideas can enable students to share and compare insights and understandings.

Students may require specific instruction on the functional uses of language, such as, reporting, arguing, reasoning, predicting, and projecting the thoughts and feelings of others. One potentially significant difficulty for LEPs and English-proficient students is the difference between a description and an explanation. Many students are able to describe an activity or an event. Descriptions provide an important foundation for reasoning, predicting, and explaining events. Because descriptions cannot substitute for other functions that are critical for academic learning, teachers must take care to enable students to differentiate descriptions from other more complex higher order language uses. Students must be encouraged to comprehend the difference between describing what happened and explaining the probable causes and effects. Such explanations are central to understanding, for example, a science experiment, a social studies lesson, or a mathematics application. As teachers realize the important role that academic language plays in students' effective participation in the educational process, they also recognize their own essential role in ensuring that students have the learning opportunities to become proficient in the academic language that enables students to think and to reason.

Academic language development can be integrated with instruction in content areas. Using illustrations, hands-on activities, and peer collaboration, teachers can make abstract content comprehensible. Such modifications can be beneficial not only to students learning English, but to English-proficient students who are also developing academic language, but who have not yet learned to communicate in abstractions. By using visuals, emphasizing new vocabulary in the context in which it is used, and relating new understandings to students' prior experiences, teachers can make the instructional process equitable for all their students.

Elementary schools that successfully teach LEPs English language arts have a comprehensive language development program in which literacy plays an important role. Such schools often allocate large chunks of time for in-depth study of a particular topic. They may devote blocks of instructional time to core academic subjects in thematic units. In Florida, fourth-grade students study weather as part of science standards. During language arts, they may read weather reports and prepare their own reports or predictions. In mathematics, they may construct and interpret graphs and charts of weather data. In social studies, they may examine the effects of weather in different parts of the state, the nation, or the world. In science, they may measure specific weather conditions in their local area, and use the information for the weather reports during language arts. By creating thematic units and integrating the subject area instruction, teachers can provide the context for meaningful opportunities to use and apply language skills across content areas. They can organize the instruction in ways that invite collaboration and participation (McLeod, 1996). Building on what students already know in order to promote their understanding of what they must learn is also an important part of the collaborative process.

In examining the instructional process in the context of collaboration, it is important to recognize that the classroom is not the only place where students learn to communicate effectively. The classroom can be an important place where students gain the courage and the motivation as well as the skills and knowledge for effective communication. By contextualizing language

instruction and making it meaningful, teachers enable students with little understanding of English to begin to communicate. By providing students with meaningful feedback and support, teachers can provide the encouragement as well as the specific instruction required to move students toward accurate and effective language use. By building on what students already know, teachers can enable students to move toward full English proficiency.

Conclusion

In achieving the state and national standards, all educational personnel must assume responsibility for students' achievement. With shared responsibility and collaboration among professionals, the instructional process becomes comprehensive and participatory. Such instruction includes the full range of curricular and extra curricular offerings, safe and well-equipped classrooms, and appropriate assessment procedures. Shared responsibility also occurs through the involvement of family and community members and the use of students' home languages in instruction.

Teachers' contributions in preparing students for the global work force must also be recognized. Teachers require support in learning how to identify and meet the needs of students at different levels of proficiency and literacy development. Teachers' efforts at creating warm, inviting places where students want to communicate must also be applauded and supported. The importance of preparing teachers to effectively assess and instruct students with a wide range of language proficiency and literacy development must also be supported.

Because biliteracy plays an essential part in global work force preparation, the support of policy makers and the business community is central to the achievement of high academic standards that includes biliteracy for all students. As policy makers and members of the business community become increasing involved in promoting effective instruction for students learning English, they will want to consider ways to encourage and reward teachers and administrators for the efforts in creating the work force required for the 21st century. They will also seek ways to build public consensus in the support for programs that ensure fully literacy development in English and opportunities for similar development in other languages. Without public support for well-designed and fully-implemented language arts programs, LEPs may not have the opportunities they require to become fully literate in English or to participate in the academic and economic worlds of their English-proficient peers. Without public support for biliteracy for both LEP and English-proficient students, valuable opportunities will be lost for preparing all of Florida's students for participation in the global work force of the 21st century.

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School Mathematics for Language Enriched Pupils

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Abstract

Language enriched pupils' opportunities to study mathematics must be comparable to those provided English-proficient students. Rather than limiting instruction to low level, paper and pencil skills, bilingual students should encounter a mathematics curriculum that includes important topics, such as discrete mathematics, the optimization of algorithms, and statistical reasoning since these are the areas of mathematics that are proving critical in the nation's economy. They should reason about problems and apply mathematics in real world settings. Their instruction should include language-based supports that enable them to successfully participate in mathematics class. Student assessment should focus on what students know and can do. In other words, the mathematics education of bilingual students can include both traditional practices and new, more ambitious goals. In addition, the understandings and the languages that students bring to the process of learning English can be seen as an advantage in promoting global work force preparation.

School Mathematics for Language Enriched Pupils

Walter G. Secada

To the question "What mathematics should a language enriched pupil (LEP) learn?" the short answer is "the same that is expected of any other student." Some observers believe that, because these students are busy acquiring English language skills, they cannot or should not learn more ambitious school mathematics. Rather, these people believe, these students should limit the learning of mathematics to basic skills, such as paper-and-pencil computations and solving *very simple* problems -- what has come to be known as "check book math."

Nothing could be further from the truth. There is an ever-growing body of research literature that shows language enriched students (as is true for all students) can learn and achieve more ambitious mathematics than they are given credit for. Indeed, one reason language enriched students have had difficulty with mathematics is that current-day practices fail to support -- and in some cases, actively interfere with -- their learning.

This manuscript takes the position that the mathematics education of Florida's (and, indeed, the nation's) language enriched students needs to target more ambitious goals than is currently true. There are four reasons for this position. First, anyone leaving school knowing just checkbook mathematics will not have a checkbook worth doing mathematics in. Second, the democracy on which this country and state are founded requires that everyone can use mathematics to understand the challenges that face society. Third, the state's and larger nation's international competitiveness will be enhanced if the state can educate a work force who are scientifically literate, know two (or more) languages, and are comfortable in multiple cultural settings. Fourth, schools should be places that develop their students' knowledge and skills as much as possible. Schools should not be places where the possibilities of a person's future are truncated by institutionally set goals.

What language enriched students need are opportunities to learn mathematics. No one can learn what is not taught to them. Language enriched students are too often relegated to low-content or low-track mathematics classrooms. These students need adaptations of mathematics instruction that allow them to take part in the classroom. Many students need explanations using easy-to-understand language. The ideas can be abstract and complex, but how these ideas are explained in English needs to be clear and simplified. Language enriched students and their teachers need modifications in assessment, so that students can show what they know and teachers (as well as other observers) can determine when an incomplete answer is due to the student's making a language-based error or making a mathematical mistake. This chapter is organized around the three areas just outlined: curriculum (the content that students are expected to learn), instruction (how they are taught), and assessment (how decisions are made about what students know).

One final introductory note: There is no monolithic, "average" language enriched pupil in mathematics. These pupils vary in their command of languages, in how they have been socialized to behave at home, in how they show respect, in their school-related and informal learning experiences, and in their cultural beliefs about going to school. Not only do language enriched students vary in how much of this or that experience they have had (for instance, in *how much* their parents may have read to them or played number games with them), they also vary in the

quality of those experiences (for instance, in exactly *what* stories were told and read to them or games they played).

Curricular Considerations

The mathematics curriculum should be targeted toward realistic problem solving, including content that is needed in order to function in an increasingly complex society and support the development of students' reasoning about mathematics.

Problem Solving

The main reason for learning mathematics is to be able to use it to solve problems in the world of everyday life, in the sciences, and in the work place. Hence, the curriculum -- the actual content that students encounter in school -- should be targeted towards mathematical problem solving and applications.

A common assumption is that, before people can solve problems, they must have mastered the basic skills that are prerequisite to solving the problem(s) in question. In fact, children enter kindergarten and first grade with sophisticated understandings and basic skills that enable them to solve word problems for which they are believed to lack the prerequisite skills. Most entering first graders can solve the following problem by counting objects or by counting their fingers:

> Mary has fifteen toy cars in all. Seven of her cars are green and the rest are blue. How many of Mary's toy cars are blue?

The mathematics curriculum ignores these kinds of word problems that seldom, if ever, appear in mathematics textbooks. Instead, mathematical ideas are often presented in ways that confuse children. For example, many children are taught to solve word problems by looking for key words, such as "in all," which is said to mean that a child should *add* the numbers, "left" is said to mean *subtract*, and so forth. If a child added the numbers 15 and 7 to solve the problem above, her answer would, of course, be wrong.

The present-day curriculum is somewhat out of balance. Language enriched pupils seldom, if ever, encounter problems that require in-depth thinking about a topic, the creation of new ways of looking at things, and the application of the basic skills that they should be learning. Instead, younger students are often kept on a steady diet of computations that are so easy they should be encouraged to do them in their heads. Older students are often asked to compute long lists of numbers that are unlike anything an adult encounters in real life. It is hardly a wonder that students turn off to mathematics.

The mathematics curriculum for language enriched students needs to strike a new balance between mastery of basic skills and problem solving. Problems should be interesting, challenge students to think hard about mathematics, and draw from the real world so that students can see how mathematics might be relevant to their lives.

The Mathematics Needed to Function in Adult Society

Language enriched pupils need mathematics that will be relevant to their futures in an increasingly complex society. Topics that used to be reserved for college students are becoming increasingly important in school mathematics. Topics that used to be reserved for secondary school are being brought into the younger grades. And old topics are being given new emphases. New K-12 mathematics topics include discrete mathematics (such as optimizing processes), statistics (such as reading and interpreting different kinds of graphs), programming, the study of growth and decay, and the study of algorithms. Topics being brought to the younger grades include algebra (such as the study of variables) and geometry. Arithmetic is being redesigned so that students study how number facts are related to one another, algebra on the use of functions to model many different kinds of real world phenomena, and geometry on its uses in dimensional analysis, in the

sciences, and in modeling the real world.

The goal of mathematics is for students to *solve problems* in areas that require discrete mathematics, statistics, and/or programming; to solve problems that have a new emphasis; and to explore and solve problems at younger ages. Students should also, *eventually*, formalize what they are learning. That is, at the beginning, students should not be expected to do things purely symbolically, but at some point, they should be expected to use symbols, equations, and graphs to show what they know and can do.

Language enriched pupils should develop their ability to use mathematics across languages and cultural settings, so that, as adults, they will be able to work in the international economy or in the U.S. military. That is, the mathematics education of these students should include problems that help them to develop proficiency in their target languages and their understandings of international settings. Depending on their levels of proficiency, multilingual students should be asked to solve problems stated in different languages that revolve around technical problems requiring mathematics for their solutions. For example, a language enriched student might need to read a business memo written in a language other than English and decide whether the facts and figures in that memo are realistic, represent a good offer, or are based on questionable information. A student might be asked to develop a plan to help a business enter a particular international marketplace by using real data from that area. Such ambitious projects need not comprise students' entire mathematics programs, but they could be included to create a more balanced program that integrates different skills and applications with realistic problems.

Not only should the mathematics curriculum include problems and applications that show how mathematics is relevant in international settings, but also the program for language enriched pupils should develop, explicitly, the technical language skills needed to use mathematics to discuss important ideas. Beyond using mathematical terminology appropriately, students need to learn how to read technical materials that include mathematical text and terminology, how to write clearly and precisely using mathematical ideas and terms, and how to make clear presentations of all sorts ranging from technical to business oriented contexts.

Some people believe that children who lack proficiency in English should not be asked to solve mathematics word problems. However, first- and second-grade language enriched children in U.S. schools can solve many word problems that their English-speaking peers can solve. These children use many of the same strategies that their peers use. What is more, problems that are difficult for language enriched children are also difficult for monolingual children. Children's choices of strategy are often the same across populations. In other words, language enriched children are mathematically similar to their monolingual peers. Some may not be as advanced as others, but they all have the same potential tools and ways of thinking. These results strongly suggest that educators should not lower their curricular goals for students simply because they are acquiring English as another language.

How People Reason in Mathematics

For an increasingly broad range of mathematical topics, research is revealing that people have developed intuitions that help them understand and solve problems. Often people's invented solutions look nothing like what is taught in school. If anything, their inventions show greater sophistication than what is taught in the book. With proper instruction, students' invented strategies can provide a solid foundation for the memorization of basic facts and for the development of computational algorithms. For example, when adults are asked to rank-order the fractions 2/7, 1/4, 2/5, 2/9, 1/3 from smallest to largest, they use many different kinds of strategies. They will often:

- Convert the fractions to decimals (using a calculator, of course) and rank-order the decimals: .22... (2/9), .25 (1/4), .28... (2/7), .33... (1/3), and .40 (2/5);

- Convert the fractions to 2/7, 2/8 (=1/4), 2/5, 2/9, 2/6 (=1/3), and rank order these new fractions by either thinking that:
  a. 2 divided into 5 parts (as in 2/5) is larger than 2 divided into 6 parts (as in 1/3), so that the more parts these fractions are divided into, the smaller they are. Hence, the ordering from smallest to largest is 2/9, 2/8 (or 1/4), 2/7, 2/6 (or 1/3), and 2/5; and
  b. If I have 2 pizzas, I get a larger piece when I have to share it among 5 people than if I have to share it among 6, 7, 8, or 9 people.

- Recognize that:
  a. 1/3 is larger than 1/4;
  b. 1/8 is larger than 1/9, so 2/8 (or 1/4) is larger than 2/9, and hence, 2/9 is the smallest fraction in the list;
  c. 2/5 (= .40) is larger than 1/3 (=.333...); and
  d. 2/7 is between 1/4 and 1/3. Hence, the ordering from largest to smallest is 2/5, 1/3, 2/7, 1/4, 2/9.

While adults have such strategies, only one of the many thousand adults who have tried this problem has ever suggested that the original fractions be converted to fractions with common denominators -- the method that is commonly taught in school. Luckily for adults, in spite of years of being taught otherwise, they retain some common sense when confronting a mathematical problem. Children, on the other hand, sometimes experience a disconnect between what common sense suggests they do and what their books or their teachers tell them to do.

Most people can see how ideas are related to one another. For instance, they understand that division is what happens when things are cut into equal-sized groups. Such relationships help people to solve real-world problems. Unfortunately, textbooks treat mathematics in such a way that students lose sight of how the big ideas are related to one another. For example, division is commonly taught to fourth graders through a rather tortured series of lessons involving single- and multi-digit divisors into single and multi-digit dividends without and then with remainders. Yet, by creating equal-sized groups of objects, first graders can solve many division problems (including those with remainders) that stump their older siblings.

School mathematics should begin with how students reason and think about mathematics. Then, it should build on and develop that reasoning to the sophisticated end points that are the goals of the curriculum. One reason that so many students fail in today's mathematics programs is that the curriculum fails to take account of what they already know.

Mathematics Instruction

Students should be active and responsible for their learning of mathematics. For instance, teachers should invest considerable class time -- even an entire class session if necessary -- having students explore a single complex mathematics problem and sharing their solutions with one another and the rest of the class. Students should have spirited conversations among themselves or with their teacher on their thinking about the problem or in diagnosing the flaws in one another's thinking. A wrong answer, in other words, can be an opportunity for discussion and clarification of the lesson's intent. The focus on wrong answers should not be limited to merely deciding who is the better or more able student.

The research on student learning clearly shows that students need to spend time thinking about what they are learning and relating new information to what they already know. Class discussion should help students focus on the most important features of the lesson. The many exercises that students are assigned as homework do not really support learning and understanding because:

- If a student already understands the lesson, more than a few exercises for the student to check

his or her understanding become an exercise in tedium, and

- If a student does not understand the lesson, then the homework does little more than reinforce errors and increase frustration.

Students learn best by doing and by seeking clarification when they make mistakes or do not fully understand. The expectation that students will sit silently through a mathematics lecture, with little or no opportunity to try out the ideas and to clear up their misunderstandings at the point where they try out the ideas, is counterproductive. Only a few students can understand the mathematics under such conditions, and then it is only because they exert additional effort -- usually after class -- to develop that understanding on their own.

The mathematics classroom, as described above, should be adapted to include language enriched students as fully as possible. Students should be encouraged to use whatever language they are most comfortable with; other language enriched students can judge whether their answers are right and make sense. Students who have a stronger command of both languages can translate original answers into English so that everyone in the class can understand how a particular solution is derived. In such a setting, the student who is doing the translating profits twice. First, she or he must pay close attention to the mathematical ideas presented in the non-English language. Second, the student has to develop mathematical terminology and precision in both languages so that people can understand the translation. In the world of international commerce, both skills -- the ability to listen and to communicate across languages -- are highly valued.

Explanations and the language used in presenting mathematical problems often need to be simplified for language enriched students. First graders learning English understand word problems more easily when they contain simple sentences, active voice, present tense, and unnecessary adjectives stripped away. For instance, the problem "Mary has 15 cars. 8 are green. The rest are blue. How many are blue?" is easier to understand than "Mary had 15 toy cars. Eight of her cars were green and the rest were blue. How many of Mary's toy cars were blue?"

Some language enriched students may need someone to help them read mathematical text and to explain the gist of what has been said. They should be taught to study worked-out examples, to look words up in the glossary, and to ask questions that indicate what they do not understand.

Teachers need to check that their language enriched students understand from what other students are talking about. Sometimes, teachers will slow down conversations with a request that students explain themselves a bit more slowly.

If the mathematics is interesting, language enriched students will often persist in trying to solve a problem and to develop sophisticated explanations. That their English is, at times, less than fluent should not exclude them from opportunities to provide explanations.

Mathematics Assessment

Mathematics assessment serves two fundamentally different purposes. Assessment first serves classroom functions. Mathematics teachers assess students to pace the instruction, to assign grades, to group students based on ability, and to track students' mathematical development over time. In order to fulfill these purposes, the assessments used in teachers' classrooms need to match, rather closely, the mathematics content that their students have *actually* covered or will cover.

A second purpose for assessment is non-instructional. Students may be assessed to evaluate the effectiveness of a particular curriculum, to monitor the functioning of the educational

system locally (as in the case of district or state assessments) or even nationally (as in the case of the National Assessment of Educational Progress), to hold students, their teachers, or their schools accountable (as in the case of student testing to obtain a diploma or to enter post-secondary education or the armed forces), or to compare students to one another (as in the case of international comparisons). When geared for non-instructional purposes, mathematics assessments can be targeted to a set of outcomes around which a political consensus has developed. Regardless what students have covered in their mathematics classes, they *should* know the content found on these tests.

Classroom Assessment

Classroom assessment should be used to diagnose and to remedy student errors and misunderstandings, in addition to its other uses of pacing instruction and grading student performance.

Classroom-based assessment is often focused on what students cannot do. While that information is helpful, teachers and students need more detailed information on what students actually understand and *can* do in mathematics. Otherwise, it is very difficult -- if not impossible -- to plan instruction. Students who seldom have the opportunity to demonstrate what they know become demoralized as their teachers make wrong-headed judgments on where to begin and how to develop instruction.

A group of secondary urban students were discussing their homework. One girl explained, in clear Spanish, how she had solved the problem: "The sum of two angles is 90 degrees. One angle is twice the other. What are the angles?" Her solution was short, to the point, and almost elegant: "One angle is X; the other is 2X because it is twice the first. So, I know that 3X equals 90. X equals 30, and 2X is 60 degrees" [my translation of her explanation in Spanish]. Another visitor to this classroom asked her to repeat her explanation in English. Beyond her many grammatical errors, this girl made substantive mathematical mistakes. In the absence of her earlier explanation in Spanish, one could only conclude that she had gotten the right answer with help from someone else.

This example illustrates the importance of distinguishing between language proficiency and mathematical errors in classroom assessment. Classroom-based assessments need to be closely matched to the mathematics curriculum that is in place, thereby increasing the likelihood that it taps into what a student actually knows.

Mathematics tests should be administered to ensure that the test provides the information that it was designed to provide. If a problem asks students to write persuasive arguments that use technical terminology appropriately, then students should be allowed to refer to a dictionary or technical glossary since, in the real life, most people who write such arguments have ready access to such materials. Recently, mathematics tests have encouraged, and in some cases assumed, student use of pocket calculators. As a result, many mathematics assessments now use messy numbers instead of numbers that are easily divisible by one another or that sum to nice totals. Finally, mathematics tests for language enriched students might require that some answers be provided in one of the target languages if the intent of the program is to develop students' technical knowledge and skills in both English and other languages.

Teachers need specialized training on what to look for and how to score student work on their tests. That training should include information on how right answers can provide evidence of student knowledge and, under what conditions, wrong answers might provide evidence that the student was actually trying to solve the problem in a way that is more sophisticated than the thinking of a "normal" student who got the answer right. For example, the student who says that 6+7=13 because 6+6=12 and one more make 13 has provided a more sophisticated answer than the student who gives the same answer because he or she counted 6 blocks and then counted

additional 7 blocks.

When scorers encounter work produced by students whose proficiency in English and in another language vary from the native speaker of that language, then the teacher needs to understand when errors or low-level work are due to student failures in the mathematical content, students' lack of familiarity with the context that was provided, or their lack of fluency with the language in question. Oftentimes, students' work looks wrong because of misspellings, use of inappropriate technical language, bad grammar, convoluted sentences, or some other problems with language. Teachers need experience with many examples of such work so that they can discriminate among the many possible reasons why something might be wrong.

Non-Classroom Based Assessments

Non-classroom assessments need to balance among competing ideas of what every student should know. Hence, they represent a political compromise. While classroom-based assessments should contain opportunities for teachers to incorporate informal observations of how their students perform and reason, non-classroom assessments do not have such a luxury. Non-classroom assessments need to be as clear and self-contained as possible.

Non-classroom assessments should include items that balance among basic skills, short applications, and longer open-ended problems. When a student's performance on an assessment has clear consequences -- for instance, the student receives a diploma, the school's results are published in a newspaper, teachers receive positive or negative feedback about their teaching -- teachers feel a strong pressure to ensure that students learn the content in that assessment. Hence, mathematics tests that are overloaded with basic skills will constrain what students learn. On the other hand, mathematics tests that are balanced in what they ask students to do encourage teachers to ensure that the students have the opportunity to learn a wide range of mathematical topics. For example, students could be asked to present a reasoned argument for why they agreed or disagreed with a statement, such as in the following:

> A high school student decided there was no reason to worry about getting into college since two local colleges accepted half the students who graduated from his high school. As a result, this student believed that acceptance to one or the other local college would be a certainty.

High schoolers' responses reflected a lack of understanding of this problem. Fewer than 6% gave a well-reasoned answer explaining how the two colleges probably did not accept everyone from the local high school. Since fewer than half of all high school students go to college, one should ask: *why* would anyone expect better performance on a test item that was irrelevant to over half of the students taking the test? However, students can learn to reason and effectively respond to similar types of questions that relate to their own interests and experiences.

While most test developers would delete a problem like this, it may not be possible (or even desirable) to eliminate all open-ended problems with even a hint of bias and still develop a mathematics test that could provide a balance among different kinds of basic skills and applications. Instead, multiple versions of the same problem might provide better information about students taking the test. For instance, an alternative problem would pose the same question about a student trying to get tickets for one of two rock concerts that would be oversubscribed. At concert A, 60% of the people who apply to get tickets do, in fact, get them; and at concert B, 50% of the applicants get tickets. Hence, person X assumes that a ticket is a sure thing and makes plans for Saturday night. The problem would be the same: Give a reasoned response as to why one agrees or disagrees with person X's belief about the possibility of activities for Saturday night. It seems relatively an easy thing to generate additional versions of the above problem that entail different settings and ask students to chose from among a group of problems.

Problems should be written in easy-to-understand English. Unless necessary to convey an important idea, text should be written in relatively short sentences, active voice, and present tense. While technical language should not be avoided, its use should be relevant to the problem settings.

Test instructions should be explicit and clear. If, in order to score high on an open-ended question, a student must do more than just provide an answer, exactly what is required should be included in the problem. It may not be enough to write: "give a mathematical justification for X." Many teachers mean different things when they say something like: "justify your answer." Somewhere in the test, students should see what counts as a "mathematical justification."

Test administration can be adapted or changed to ensure the gathering of valid information, that is, the conditions under which tests are administered increase people's confidence that the test results do, in fact, tell us what we want to know about the students' knowledge and skills. In addition, test administration should be adapted to ensure that specific students have a realistic opportunity to show what they can do. The most commonly used adaptations are:

- Allowing students extra time to complete a test.
- Encouraging them to use calculators, computers, or other technical instruments.
- Providing students with specially trained readers or translators to explain the test's directions.
- Allowing students to dictate their answers to someone (specially trained) who can write the answers on the student's behalf.
- Providing answers in another language that are then translated into English (or are scored by someone who is literate in that language).
- Allowing students to use their books or notes during the examination.
- Other individually-negotiated methods that test administrators and students agree would provide for a fair and valid assessment of what the students know.

For students who are not fluent in English, the provision of test readers and translators, dual-language dictionaries, calculating aides, and extra time are among the most-often used adaptations. When the administration of a mathematics test varies, the test administrator should note the adaptations provided to individual students. Whenever someone helps a student to take a test, by reading or translating or some other means, that individual should be carefully trained to ensure the help does not accidentally give the answers. When a task is open-ended and rather complex, the likelihood of someone accidentally giving away the complete answer is lessened than when the task is a simple, multiple-choice question. On the other hand, the more complex a problem becomes, the more likely it would seem that the person who is helping will accidentally give away parts of the answer since that individual would be helping with many different parts of the question. Hence, the person who is helping should receive special preparation and review the test, item by item, to determine what help is and is not appropriate.

In some cases, a test that is usually group-administered might have to be administered individually or in small groups to some students. For instance, an immigrant student who knows a lot of mathematics might have been in the United States too short of a time to read and understand non-computational problems. In this case, someone might have to read and translate the problems, individually, to that student. Alternatively, the student might be provided with a tape recording that translates the problems in question.

Concluding Comments

The central problem addressed in this chapter is how to include language enriched pupils in a school's mathematics program. Though inclusion is a complex issue, the associated problems are

solvable and achievable in Florida.

In order to be successful language enriched pupils need more than the technical solutions outlined in this chapter. They need business people, educators, and interested stakeholders to agree that all students are worth the time and energy that will be required to ensure that they are included, *meaningfully*, in their schools' mathematics programs. Unfortunately, many people seem willing to do something about the "problem" of language enriched students, provided that solving the problem does not cost too much, does not require careful thought, can be done easily, or has been solved elsewhere. Under such circumstances, efforts to improve schools' mathematics programs may become more powerful ways of depriving Florida's language enriched pupils from the educational opportunities they require.

This nation's language enriched students deserve the best that can be offered. First of all, they deserve it as a simple matter of dignity. They are America's children; they deserve what is appropriate for all of our children. Second, language enriched pupils merit the best because they provide this country with an incredible set of linguistic and cultural resources that could be used to help the state and nation become more fully a part of the international marketplace -- not just the economic marketplace, but also the marketplace of ideas. If, through their deeds, Americans show that they believe in opportunity for all by actually providing that opportunity, the belief in democratic opportunity will be exportable to all places on the globe. Finally, Americans need to invest in this nation's language enriched children in order to ensure that the democratic prospect remains vibrant into the next century. As Mr. Jefferson noted, education is the anvil on which we forge the nation's democracy. For its citizens to participate fully in its varied aspects, they must be well educated enough to take seriously the problems of the democracy and to exercise their responsibilities in an enlightened manner. Mathematical literacy is central in all three of the above.

Science Instruction and Assessment for Language Enriched Pupils in the State of Florida

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Abstract

Current science education reform strives to achieve the goal of "science for all," including students from non-English language backgrounds. Students learning English as an additional language present both unique challenges and opportunities to develop the scientific and technological work force for an expanding global economy. This paper addresses issues of science instruction and assessment with students learning English as a new language in Florida. The paper responds to three questions. First, why is science important for all students, especially those learning English as a new language? Second, what is the current status of science instruction and assessment for these students? Third, what are the effective policies and practices in science instruction and assessment that enable these students to become effective learners? In responding to these questions, the paper highlights ways that science promotes students' literacy development and English language proficiency. The paper also emphasizes the potential contributions that students from non-English language backgrounds can make to global work force. In addition, the paper underscores the importance of business, community, and government in ensuring students' successful transition from school to work. Achieving both academic excellence and educational equity in learning science requires all stakeholders be involved in reforming the education system.

Science Instruction and Assessment for Language Enriched Pupils in the State of Florida

Okhee Lee

Science Instruction and Assessment for Language Enriched Pupils

The vision of current education reform is the attainment of high academic standards for all students through systemic reform. To achieve both academic excellence and educational equity, all stakeholders should be involved in the reform of the education system. The participation of business is especially important to ensure students' successful transition from school to work.

Consistent with the national reform efforts in general, science education reform strives to achieve the goal of "science for all." This goal responds to the social and economic, as well as academic, needs in society. The explosive growth of scientific and technological knowledge demands a work force that is scientifically and technologically literate. The global economy also requires a work force that can function in multilingual and multicultural settings.

Students learning English as an additional language present both unique challenges and opportunities for developing a scientific and technological work force in global economy. Although some students experience difficulties communicating in English, these students also may bring resources that can promote their learning of science and technology. In addition, their knowledge and experience in multiple languages and cultures can be major assets. As the global economy expands, it is essential to include these students in science and technology instruction.

The purpose of this paper is to describe issues of science instruction and assessment with students learning English. In this paper, these students are referred to as "language enriched pupils" (LEPs). The paper responds to three questions. First, why is science important for all students, especially those learning English as a new language? Second, what is the current status of science instruction and assessment for these students? Third, what are effective policies and practices in science instruction and assessment that enable these students to become effective learners? The paper highlights ways that science promotes students' literacy development and English language proficiency. The paper also emphasizes the potential contributions that students from non-English language backgrounds can make to global work force based on their learning of science and technology. In addition, the paper underscores the importance of business, community, and government in ensuring students' successful transition from school to work. Achieving both academic excellence and educational equity requires that all stakeholders be involved in promoting education and achievement. The paper addresses these issues within the state of Florida as well as in the nation.

The Importance of Learning Science

In order to understand why science learning is important for students learning English, it is necessary to understand what science is and why it is important. This section addresses two issues: (a) science content standards at the national and state levels; and (b) science learning for students learning English.

Science Content Standards

Professional organizations in science and science education have established high academic standards in science, referred to as science content standards. At the national level, two sets of documents have been particularly influential. The *National Science Education Standards* (1996) by the National Research Council is a consensus document. *Science for All Americans* (1989) and *Benchmarks for Science Literacy* (1993) by Project 2061 of the American Association for the Advancement of Science are major milestones in science education reform since late 1980s. In line with the national science content standards, the Florida Curriculum Framework states, "high standards are the center of efforts to reform and enhance education in Florida" (Florida Department of Education, 1996, p. 25) and "the science standards presented in this framework should be the starting point for science education within Florida's education system" (p. 26).

These documents at the national and state levels generally agree on what all students should know and be able to do in science in order to be educated members of society. The documents define science content standards in a comprehensive manner that include not only science knowledge and inquiry, but also how science is related to personal, social, cultural, economic, and historical perspectives. Each of these standards is briefly described.

Science knowledge in physical, life, and earth/space science. Science learning involves understanding concepts, theories, and relationships within and across science disciplines -- a body of scientific knowledge. U.S. science education has been criticized for being "a mile wide and an inch deep," indicating that the curriculum covers too many topics superficially and does not allow students sufficient time to understand science concepts (Schmidt, McKnight, & Raizen, 1997). As a result, students often think of science as abstract theories, big words, and complicated formulas. In the current science education reform, the focus is on a small number of key topics at greater depth -- the principle of "less is more." The current focus is also on using and applying knowledge to explain and predict natural phenomena.

Science inquiry. Science inquiry involves the process of observation, experimentation, and validation based on evidence, reasoning, and logic. As students conduct an experiment or investigation, they formulate questions, devise plans to explore the questions, make and revise hypotheses, collect and analyze data, interpret data, generate explanations, draw conclusions, and communicate results. In addition, students use scientific tools and instruments, including rulers, scales and balances, thermometers, watches, magnifiers and microscopes, calculators, and computer software programs.

Science inquiry, along with science knowledge, is a foundation of science. Inquiry encourages students to explore their world, ask their own questions, and try to find their own answers. Gradually, they develop inquiry abilities from simple and concrete to more complex and abstract tasks. In conducting science inquiry, students learn to employ precision and accuracy as well as logical and critical thinking.

Science, mathematics, and technology. Mathematics is an integral part of science. To conduct science inquiry, students need to measure weight, volume, length, temperature, speed, and many other properties of objects and events. They also need to use concepts of statistics and probability for data analysis and interpretation. In addition, they need to know how to record and present the data in multiple formats, including graphs, charts, tables, and figures. These are only a few examples of how mathematics is essential in science learning.

Technology indicates engineering and design. Science is an understanding of the natural world, and technology involves making things work to meet human needs. For example, students engage in a variety of design projects, such as making a boat that maximizes load capacity, building bridges that sustain heavy weight, or designing houses that conserve heating and cooling efficiently. Emerging areas, such as biotechnology and genetic engineering, are important

technologies in modern society. All these areas are central in developing new business and promoting entrepreneurial enterprises.

Science in personal and social perspectives. Science content standards are designed to make science accessible for all students, not just a select few who may become scientists. Science is essential in enabling all students to become educated members of society. It is directly related to personal and social issues, such as health, population growth, natural resources, environment, safety, and natural and human-induced hazards. Simple examples include the choices between paper and plastic bags or between disposable and cloth diapers, each with benefits and negative impacts on production costs and the environment. Other examples include global warming, cloning, and nuclear energy. As students investigate issues, they often become involved in exploring alternative, sometimes controversial, points of view that require moral and ethical considerations. Examples include the use of birth control and fertility drugs or practices involving laboratory animals. Through learning science, students also become better informed in making decisions about personal and social matters.

Unifying themes. In addition to the concepts and theories within each science discipline, there are unifying themes or "big ideas" across the disciplines. These themes include: (a) patterns of change in cycles or trends; (b) models for understanding and explaining natural phenomena; (c) systems, sub-systems, and their relationships; (d) evolution and equilibrium; and (e) form and function. As students gain science knowledge, they develop big ideas across science disciplines, for example, how to explain and predict el Niño's effects as part of the global weather system, how the timber industry may change the environment by impacting the ecosystem, or how to manufacture durable (function) and appealing (form) products with cost-effectiveness.

Scientific habits of mind. Science involves certain values and attitudes. Some scientific values and attitudes are generally shared by most members of society and highly regarded as basic human qualities, including curiosity, interest, insight, enthusiasm, diligence, persistence, and creativity. Others are central to science, including openness to new ideas, critical and independent thinking, tolerance of ambiguity or uncertainty, skepticism, reasoning, empirical verification, arguments based on evidence and logic, and questioning rather than deferring to authority. In addition to independent thinking and performance, scientific values and attitudes also include teamwork, collaboration, and shared responsibility for learning with others in a science learning community (Lee & Fradd, 1998).

The scientific world view is a way of knowing that distinguishes itself from other ways of seeing the world. Science seeks to understand how the world works through observation, experimentation, and validation. The scientific view of the world differs from alternative views, such as personal beliefs, myths, religious values, mystical inspiration, superstition, and supernatural forces. As students engage in science learning, they develop scientific habits of mind.

The Importance of Learning Science

Although science is important for all students, it is particularly important for students learning English as a new language. The benefits occur not only in science learning, but also in literacy development, English language proficiency, communication, and the development of a scientific world view. These benefits enable students to become assets in the international work force.

Science learning. As a study of natural phenomena in everyday life, science offers important learning opportunities. Particularly, hands-on science activities provide the foundation for academic learning. Hands-on science can generate interest, curiosity, and excitement in natural settings. As students engage in hands-on activities, they link prior knowledge and experience to make science learning meaningful and relevant. Considering that students may have limited prior knowledge and experience in science, hands-on activities provide the context for life experience in

the classroom setting as well as enrichment for further learning. Hands-on activities also reduce the burden of language use, thus allowing students to focus on the content of science. For students with limited exposure to literacy, concrete science experiences provide a foundation for complex, abstract thinking.

Science encourages students to be inquisitive about natural events, to ask questions, and to devise plans for obtaining information. This process promotes many important learning outcomes. For students who come from cultural backgrounds where they are expected to accept the knowledge transmitted to them by authorities, rather than to ask their own questions, they often have difficulty with inquiry. Learning science through active engagement enables them to become independent learners who generate explanations based on evidence and logic. The process also enables them to become precise and accurate in making measurements, manipulating multiple variables, and considering a variety of alternatives.

Literacy development and English language proficiency. Literacy development involves abilities well beyond being able to speak, listen, read, and write. Literacy involves learning to think and reason. Language functions (e.g., describing, hypothesizing, explaining, predicting, and reflecting) develop simultaneously with science inquiry and process skills (e.g., observing, describing, explaining, predicting, estimating, and inferencing). In this sense, hands-on science promotes thinking and reasoning that involves both literacy and science learning.

Literacy development occurs on a continuum from preliterate, with little or no schooling and exposure to literacy, to the age- and grade-appropriate development necessary for academic achievement. Preliterate students require a great deal of support in academic learning. Science enables them to associate real-world objects and events with symbolic representations. Students progress from describing "here and now" events, to reporting "what happens" for those who are not present at the events, and then to hypothesizing "what will happen." Through this process, students move from simple and concrete to more complex and abstract ways of thinking.

In addition to general literacy, students must acquire English language proficiency to effectively participate in mainstream classrooms. Developing literacy and proficiency in two or more languages promotes cognitive flexibility and capabilities. The use of students' home languages also promotes academic achievement in English. In learning science, students may start by observing, imitating, and interacting with others and gradually learn to perform independently. Through this process, students can learn and communicate about science in other languages as well as in English.

Communication. Communication is an important part of science for all students. It is especially important for students from non-English language backgrounds. When students work on tasks involving science or technology, they apply similar concepts and procedures regardless of their backgrounds. However, the ways they interact and communicate and the ways they interpret and present their findings may differ across languages and cultures.

As students learn to communicate about science across a range of contexts, they learn to express their ideas using multiple formats, such as graphs, charts, tables, figures, and drawings. The ability to represent and interpret information is a skill that educated members of society use in analyzing statistical information, preparing reports, evaluating financial offers, and recognizing unsubstantiated claims. In situations involving participants from diverse backgrounds, students from non-English language backgrounds understand culturally, as well as scientifically, appropriate ways of interacting and communicating. Based on such knowledge, they can modify and accommodate their communication to meet the needs of a variety of audiences.

World views. Science is more than understanding a body of knowledge or doing inquiry. Science promotes habits of mind, including certain values, attitudes, and world views.

Scientific habits of mind generally reflect the norms of the western society in which modern science has evolved. On the other hand, students from non-English language backgrounds may have their own habits of mind based on their language and cultural environments, which may differ from science or the mainstream. Because science promotes fundamental ways of thinking used in the mainstream, the cultivation of scientific habits of mind may be one of the most important contributions that learning science offers these students. By recognizing and appreciating a variety of ways for explaining events, students realize the importance of cultural and linguistic diversity in communicating and interacting.

In summary, LEPs bring their own language and cultural experiences to the learning process. Through instruction, they learn science knowledge, inquiry, and habits of mind. They also learn to communicate and interact according to the norms and traditions of the mainstream. Through these experiences, LEPs make sense of natural and social phenomena from diverse points of view, solve problems in alternative ways, and communicate ideas and results using multiple formats. Science knowledge and habits of mind, coupled with multiple languages and cultures, offer many advantages for work force. These are the skills and abilities that are increasingly important in an expanding global economy and world business.

The Current Status of Science Instruction and Assessment for LEPs

Although science learning is demanding for most students, it is particularly challenging for students learning English. Beyond the challenges faced by their English-proficient peers in learning science, LEPs must also develop proficiency in English and ways of communicating and interacting in the mainstream. LEPs with limited literacy or little schooling in their home countries must develop general literacy. Because of these multiple requirements, LEPs are more vulnerable to discontinuities that occur when policies and practices fail to meet their needs. This section describes the current status of science instruction and assessment with respect to meeting the needs of LEPs.

The Current Status of Science Instruction for LEPs

In spite of state efforts to ensure that all students receive equivalent content instruction, opportunities to learn science may be more limited for LEPs than for English-proficient students. These opportunity differences do not exist by design, but by the natural way that instruction and assessment occur in public school settings. In addition, policies and practices at the state, district, and school levels may reduce opportunities for meaningful science instruction.

In elementary schools across the nation, language arts and mathematics take up most instructional time, with little time left during the school day for other subjects, including science. The U. S. Department of Education recently reported that most elementary schools allocate over two hours to reading and language arts instruction daily (National Center for Education Statistics, 1997). While mathematics instruction receives one hour, another hour is divided between social studies and science. Florida district and school policies usually allocate limited time for science, often 30 minutes daily. To do any meaningful science lesson, 30 minutes is insufficient. Students can barely complete a hands-on science activity in 30 minutes, with no time for discussing the results afterwards. In addition, science is usually scheduled in the afternoon when special school activities tend to occur. As a result of both planned policies and inadvertent practices, the instructional time available for science is limited.

The importance of achieving well on state-wide assessments in language arts and mathematics tends to overshadow elementary students' achievement in science. The case of low performing schools pressed to ensure students' basic achievement in language arts and mathematics is particularly relevant. Because the students at these schools often come from backgrounds which do not stress or value science, they generally have little exposure to science at home as well as limited access to science at school.

Once LEPs are assessed and determined to be proficient in English and existed from ESOL classes, they receive science instruction in English in regular classroom settings. Even those students who appear fluent in English often require assistance in learning the academic language of science. Although use of students' home language can facilitate their understanding of science, such communication often does not occur because many teachers do not speak the languages of their students. In addition, some school policies do not promote such practices.

At the secondary level, some districts and schools encourage LEPs, especially those at the beginning and intermediate levels of English proficiency, to attend content areas classes, including science. As their English proficiency increases, these students move into regular content areas classes. In many other secondary schools, however, LEPs enroll in regular science classes regardless of their English proficiency. Learning needs are great for those with limited literacy, English proficiency, and science experience.

Science instruction depends greatly on the availability and appropriateness of instructional materials. Science supplies and equipment are often in short supply. Even when they are available in the school building, they may not be easily accessible to individual teachers. Science books and materials in languages other than English are also limited. Most science instruction is done in English, with regular science textbooks. The vocabulary in such textbooks is generally difficult to understand, even for English-proficient students. In fact, science textbooks often have more vocabulary words than those in foreign language textbooks. Without the support of instructional materials and with an overemphasis on technical language, science instruction is difficult for both LEPs and their teachers.

Current Status of Science Assessment for LEPs

Assessment policies and practices exist at national, state, district, and classroom levels. Assessment at each level has a variety of purposes, data collection methods, decision making requirements, and expectations using results. Regardless of these differences, assessments must be aligned with science content standards in terms of promoting excellence while being fair with all students.

Assessment at the national level. National Assessment of Educational Progress [NAEP] at the U.S. Department of Education has been the only national-level assessment in various subject areas, including science, since its inception in 1969. Because of its national prominence, NAEP has tried to reflect changes in curriculum over the years while maintaining the continuity of information in a long-term trend design. The most recent NAEP science assessment in 1996 significantly incorporated the science content standards (Sullivan, Reese, & Mazzeo, 1997). The 1996 assessment used short answer items, extended response items, and performance exercises, in addition to multiple choice items.

The NAEP science assessment reports provide student achievement data for a national sample at grades 4, 8, and 12. The reports also provide group comparisons in terms of ethnicity, gender, and other demographic variables. Generally, Hispanic, Black, and American Indian students have lower average performance than White and Asian/Pacific Islander students at all three grades. The 1996 science assessment included limited English-proficient students as well as students with disabilities and provided an array of accommodations for these students. Specific information about these students' performance is not available.

In addition to the national sample data, the 1996 science assessment for the first time examined science performance at the state level. Thus, 1996 NAEP science assessment is regarded as the best available means for determining the extent to which students across the nation and in each state achieved science content standards. Among the 43 states participating in the voluntary state-by-state assessment at grade 8, Florida (average score of 142) performed below the national level (average score of 148) and far below the top-performing state (average score of 163). Of the

8th-grade Florida student sample, the average score of Black and Hispanic students was significantly lower than that of White students.

Assessment at the state level. Standards-based reform has been active and strong in Florida. Florida has assessment systems in reading and mathematics ("Florida Comprehensive Assessment Test"[FCAT]) and in writing ("Florida Writes!"). In addition, to earn a standard high school diploma in Florida, all students are required to pass the communications and mathematics sections of the High School Competency Test. Florida is like many other states that have developed science content standards but do not have assessment systems in science. Instead, science assessment is expected locally: "on the local level, the state standards for science should form the basis for classroom assessments for science" (Florida Department of Education, 1996, p. 26). Thus, there is no public means to hold the state, districts, or schools accountable for science instruction. However, the content of science is being assessed through the medium of Florida Writes! and FACT reading comprehension and mathematics.

Assessment at the district level. Apart from state-level science assessment, districts determine assessment systems in science. Unlike language arts and mathematics assessments which are often administered at each grade level, science assessment is generally administered at designated grade levels in elementary, middle, and high schools. Thus, there is less accountability in science than in language arts or mathematics. In addition, with no state-level assessment or accountability in science, even school districts that once had comprehensive science assessment procedures have tended to eliminate them.

Assessment at the classroom level. Teachers are in the position of assessing their students' science performance on a daily basis. To assess LEPs' learning progress and achievement in science, teachers should differentiate students' English language proficiency, literacy development, and science achievement. Teachers should also have a good understanding of science content. In addition, they should have a sound knowledge of assessment procedures, such as validity, reliability, utility, and practicality. Because of these difficulties, science assessment for LEPs may often be conducted inadequately or not at all.

Effective Practices and Policies in Science Instruction and Assessment for LEPs

Science content standards at the national and state levels involve higher-level thinking and complex abilities of all students. Compared to the traditional notion of knowing science information and vocabulary, the current view of science learning requires students to think, reason, communicate, and solve problems. In order to achieve science content standards, efforts should be made to ensure that all students have access and opportunities to learn science. Effective practices and policies to promote LEPs' science achievement are described next.

Effective Science Instruction for LEPs

In any learning situation, students bring their previous experiences and prior knowledge related to the topic of study. LEPs bring with them their own ways of looking at the world. Their ways of knowing may or may not be consistent with the nature of science or the way science is generally taught. On the other hand, LEPs may bring language and cultural resources that can promote science learning. For effective science instruction to occur, policies and practices to provide such instruction are needed at the state, district, school, and classroom levels.

State policies and practices. Florida has established policies and practices to meet LEPs' needs through both regular and special instructional programs. Teachers are expected to collaborate in meeting LEPs' needs in ESOL and regular classrooms.

Florida policy requires teachers to be prepared to effectively instruct students learning English. In school districts with high proportions of LEPs, this policy applies to almost all

elementary teachers in self-contained classrooms and a large number of secondary teachers in content areas, including science. To work with LEPs, teachers need to understand the students' languages and cultures in social and academic contexts. They also need to understand how to incorporate the students' language and cultural experiences in academic learning. As regular teachers are learning more about how to work with LEPs, ESOL teachers can be prepared to collaborate with regular teachers. ESOL teachers are encouraged to use the content of science in teaching English language.

District and school policies and practices. Once the state establishes policies and guidelines for programs, districts implement these policies. Districts develop science curriculum and implement plans based on the science content standards at the national and state levels. Then, schools carry out these plans. District and school practices can be flexible to accommodate the needs of students learning English. District and school administrative support is critical in providing these students with effective science instruction that simultaneously promotes English language proficiency and general literacy development.

Flexible scheduling can facilitate instructional time for science in elementary schools. For example, instead of 30 minutes for science every day, schools may have an option of one-hour science instruction for two or three days a week. Within the same amount of time, more meaningful science instruction can be provided.

Hands-on science provides natural settings for students to use mathematics and language arts. Because computation and communication are integral in science, science can be part of language arts and mathematics instruction. By integrating academic content, teachers can help students see the meaningful connections and relevance of various subject areas. An integrated approach is especially important for LEPs with limited access to science instruction. ESOL teachers can work with regular teachers to promote academic language in science, while developing English language proficiency and general literacy simultaneously. When LEPs are exited from ESOL, they may have an understanding of science equal to their English-speaking peers.

Science instruction requires adequate supplies and equipment. Although science equipment is often expensive, supplies do not have to be costly or sophisticated. In fact, everyday, household items may be more meaningful and relevant for students, as well as more affordable and easier to maintain than expensive equipment. Nevertheless, an adequate budget is required for science materials. These should be stored and organized for easy access and use. Some science materials are available in multiple languages. The increasing availability of technology in multiple languages means that school districts can consider science as an area for multiple language learning. Even when little or no commercial materials in multiple languages are available, districts can assist in developing lists of terms and phrases in students' home languages to facilitate communication and comprehension.

Classroom practices. To promote science learning, teachers need to make science accessible, meaningful, and relevant to the students. Teachers need the knowledge in three areas: (a) science content; (b) students' languages and cultural experiences; and (c) students' literacy and language proficiency. By integrating these areas, teachers can promote science learning, literacy development, and language proficiency.

An example illustrates how teachers can integrate these three areas. A fourth grade class with many LEPs was studying the concept that the earth is heated unevenly because the sun's rays are more direct on some places than others. Using a world map, a teacher asked the class about differences in temperature among five major cities in North America. Then, he selected five capital cities in South America and asked the class about differences in temperature. The teacher asked the class to identify patterns in temperature differences among the 10 cities in North and South Americas. The teacher made sure that the students understood the concept -- the cities closer to the

equator tend to be warmer because the sun's rays reach these places more directly. The teacher also involved students' prior knowledge and personal experiences by asking the students from those countries about weather conditions there. Through this discussion, the students recognized that other factors, such as elevation and proximity to the ocean, were also important in determining temperatures. Throughout the lesson, the students were engaged, enthusiastic, and excited. They learned about weather patterns and related science to their own backgrounds. They also learned world geography concerning major cities and countries in the Americas.

Effective Assessment Practices

The essential feature of assessment policies and practices is the attainment of high academic standards. Traditional assessments generally focus on basic knowledge and skills in multiple-choice forms. In contrast, different kinds of assessments are needed to measure the higher-level thinking and complex abilities stressed in the science content standards. Alternative assessments include performance measures, portfolios, observations, interviews, conferencing, students' self-assessment, and peer assessment (Florida Department of Education, 1996). The increasing use of alternative assessments presents new challenges. More information is needed to determine the strengths and limitations of alternative assessments for students learning English as a new language. Policies and practices are described within the context of current assessment reform.

State policies and practices. Although Florida does not have an established system for science assessment, the opportunity is being developed. Science assessment is becoming part of the state-wide systems for language arts and mathematics. For example, the Florida Writes! provides students with prompts for writing. Some of these prompts are science topics. The reading comprehension of the FCAT reading comprehension also use science content. In a similar manner, the mathematics component of the FCAT could use examples of hands-on science activities with mathematics applications.

District and school policies and practices. Because science assessment occurs locally in Florida, district and school support for effective assessment practices is critically important. To establish accountability in science, districts and schools could require science grades in the report cards based on students' performance on specific tasks. Using science content standards as the criteria, assessments and grades could reflect the extent students have reached these standards.

Based on state policies of making accommodations in state-wide assessments for language arts and mathematics, district and school policies could allow accommodations to meet the needs of LEPs in science assessments. Such accommodations include flexible time restrictions, provision of test readers and translators, availability of dictionaries in both their home language and English, use of assessment materials in their home language, and use of multiple measures. In addition, the students could have opportunities to become familiar with assessment procedures and test-taking strategies prior to engaging in the assessments.

Classroom practices. An important aspect of classroom assessment is the use of meaningful and relevant topics, tasks, and activities. Teachers may employ assessment practices for LEPs which can benefit all students. First, using two separate scoring criteria, teachers may assess LEPs for science learning and English language proficiency. The six-level scoring rubric for the Florida Writes! assessment can be modified for science content and English language proficiency separately. Efforts to design and implement such a scoring rubric in elementary science instruction are currently under way (Fradd, Lee, & Larrinaga-McGee, in progress).

Second, teachers may assess LEPs in their home languages as well as in English. Allowing students to communicate science knowledge in their home languages promotes both general literacy and academic learning which, in turn, promotes English language proficiency. The

emphasis on developing English language proficiency should not overshadow the importance of general literacy and academic learning. Achievement in these three areas can develop hand-in-hand.

Finally, teachers may promote the use of multiple representational formats. Those who can not write in either their home language or English can express their ideas in drawings or through oral communication. For example, a newly arrived Haitian elementary student, who had had little schooling and very limited literacy, had difficulty even holding a pencil. When he was asked to explain why a boat made of clay would float or sink, he became intently involved, gave explanations in terms of air in the boat, and related this task to his perilous journey to the U.S. on a boat. Not only did the oral assessment allow him to demonstrate his knowledge of the topic, it made science come alive for him.

Conclusions

Science has traditionally been a domain for a select few -- the smart and the high achieving students. In contrast, the current focus is to make science accessible to everyone in order to participate effectively in society. Science learning involves not only acquiring knowledge, but using this knowledge to think, reason, communicate, and solve problems. This view of science is particularly important for students learning English who represent multiple languages and cultures in a global work force.

The state of Florida is to be commended for its efforts to provide educational services that meet the learning needs of all students, including those learning English as a new language. With innovative and creative planning, much more can be done without overburdening the current system. Relationships with business, community, and government are essential in establishing priorities, garnering support for effective policies and practices, and ensuring the successful transition from school to work. To ensure quality science instruction for all students, all of the stakeholders should seek an education system that prepares the students to participate in a global work force.

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Social Studies Instruction and Assessment: Meeting the Needs of Students Learning English

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Abstract

This paper examines social studies standards in Florida and their implications for the instruction and assessment of students learning English as an additional language. The paper discusses the importance of learning social studies in terms of acquiring strong academic skills that transfer to other learning environments and developing a sense of civic responsibility through the knowledge gained in social studies classes. The paper concludes with a series of recommendations for facilitating the process by which the target students learn social studies and meet the state standards.

Social Studies Instruction and Assessment: Meeting the Needs of Students Learning English

Deborah J. Short

Florida, like the rest of the United States, will benefit from educated students, who, upon graduation from high school, college, or other post-secondary institutions, become productive members of the work force. Part of a well-rounded education includes knowledge of the social studies and its components -- history, geography, civics, government, and economics. The positive gains from students who understand and do well in social studies are multiple. The gains include students with knowledge about the subject area that can positively influence their personal and social actions, and students with key skills useful to the workplace that are developed through social studies instruction.

This paper examines social studies standards as they apply to the instruction and assessment of a growing group of students in Florida schools -- those learning English as a new language. In many schools, these students are learning English at the same time they are studying social studies. This is a substantial undertaking that offers both opportunities and challenges to the students and their teachers. This paper initiates a dialogue on some of the potential effects of social studies reform for students whose first language is not English.

Overview of Social Studies Instruction

For students learning English as an additional language to succeed in school programs, they must master not only English vocabulary and grammar, but also the way English is used in core content classes. This academic English includes a variety of language items, such as technical terms used in mathematics and the sciences; the organization of sentences (e.g., active voice and passive voice) and paragraphs (e.g., topic sentence and supporting details); and the way to ask a question or make a request in a classroom. For example, in learning to use English, students must be able to read and understand the expository prose of textbooks; write persuasively; argue points of view; and take notes from teacher lectures. They must also articulate their thinking skills in English to make hypotheses and predictions, express analyses, and draw conclusions. In their various content classes, these learners must apply their emerging knowledge of the English language with the content knowledge they are studying in order to complete the academic tasks associated with the content area. They must, however, also learn *how* to do these tasks, such as generate an outline, negotiate roles in cooperative learning groups, and create charts from data. In brief, students need to develop academic literacy, which is the combination of these three knowledge bases -- knowledge of English, knowledge of the content topic, and knowledge of how the tasks are to be accomplished (Short, 1997).

As the number of multilingual students in Florida schools increases, the educational needs of these students to learn English and to reach high standards in the content areas remains an educational priority for policy makers, educators, the business community, and society.

The Importance of Social Studies

Social studies is a core subject area from kindergarten through high school. As explained by the National Council for the Social Studies (1992), social studies is the study of societies and cultures and their interactions and inter-relationships in the United States and around the world. At the elementary school level, social studies is generally taught as a set of "expanding communities" where students in primary grades learn first about community helpers and their neighborhoods before moving on to topics in the upper grades about their state, their country, and the world. At the middle and high school levels, usually more specialized courses, like U.S. history or world geography, are taught.

In Florida, the importance of social studies in the educational preparation of learners is acknowledged through the new Sunshine State Social Studies Standards. Florida students in grades pre-kindergarten through grade 12 are being asked to reach 12 new social studies standards in four broad categories of knowledge: time, continuity and change (history); people, places and environments (geography); government and the citizen (civics); and economics.

Social studies courses provide a venue for students to learn about civic values, government structures, cultural norms and traditions, historical events, and economic influences on society. The accumulation of knowledge on these topics and others that students gain through these courses can lead them to be more successful adults. Through study, students learn of historical role models, conflicts and resolutions, and multiple perspectives. They can use this knowledge in the workplace, the community, and the home. They learn about their responsibilities as residents in a neighborhood, the duties of their local government, and the value that society places on good work habits.

Florida is a multilingual, multicultural state with many economic ties to many other countries. An educated work force that is knowledgeable about other cultures and can speak languages in addition to English is essential for the economic growth and development of the state. Being familiar with cultural norms, historical precedents, geographic factors, and the like can provide Florida businesses not only with more facile business interactions, but also with a linguistic and cultural advantage over competitors.

Social studies courses also provide opportunities for students to develop valuable skills in discussion and writing. They learn to identify factual evidence from opinion or conjecture, sequence historical events, and distinguish between primary and secondary sources of information. They develop literacy skills that involve writing, such as persuasive essays that can be demonstrated through a letter to the editor or a written speech for an electoral candidate, as well as literacy skills related to interpreting charts, tables, and graphs. Most social studies courses require students to identify and draw conclusions and to use visual clues to analyze information. These types of literacy skills are invaluable in the world of work.

Social studies instruction also offers opportunities for working in teams to achieve important outcomes. For example, cooperative learning is a common instructional technique that requires students to work together to complete tasks and share information. Because students learn to work productively as a team, the skill can translate to the business world. Debating and role playing also prepare students with skills and experiences they will need to be successful outside school.

As a subject, social studies provides important opportunities for all students to learn about their own cultures and to reflect on the heritages, countries, and peoples of the world. For many students learning English, the subject is inherently interesting. As informants about the history and culture of their heritage countries, students have a great deal to contribute to class. But in order to make effective contributions, students need skillful teachers who can assist their participation while

they are still developing their English proficiency. Social studies educators who have been trained in the discipline should welcome cultural diversity in their classrooms and incorporate multicultural practices into their instruction.

Because many teachers enjoy incorporating history and culture into their English lessons, social studies has often served as a catalyst for language learning. Teachers can use social studies topics to develop lessons that also teach language. For example, early in the school year, with a group of beginning level students, a teacher might teach the "wh- questions" (who, what, where, when, why, and how) through a map activity of a neighborhood. Local buildings might be pointed out and students would learn to respond to and pose questions like: Where is the library? Who works in a post office? How do I get to the supermarket?

Many language and social studies teachers find the underlying narrative structure of many social studies textbooks appealing. By telling a story to relate historic events, successful teachers engage student interest; dramatize conflicts, problems, and solutions; and describe the characters and the setting. Since this storytelling practice is a universal teaching method, all children are familiar with this approach to teaching and learning, within home and school settings.
While it is clear that learning about social studies is advantageous to students and society, the actual teaching and learning process can be challenging for some students who are learning English at the same time they are trying to master the social studies content. Social studies demands a high level of literacy skills and often relies heavily on the textbook and teacher lecture to present information (Thorton, 1994). This means that some students, particularly those with weaker literacy skills, may be at a disadvantage in class, especially since reading experts and social studies researchers have found that most social studies textbooks are not reader-friendly. For
example, many textbooks do not develop ideas and concepts fully, present information as a series of disconnected facts, have poor visual organization, and use headings and illustrations
inappropriately (Apple, 1992; Beck, McKeown & Gromoll, 1989; Brophy, McMahon & Prawat, 1991). Similarly, the treatment of vocabulary in social studies textbooks is inadequate for many students learning English (Short, 1994). Only a selected number of key terms (5-10) are
identified per chapter, highlighted in the text, and defined in the glossary. Students who are not proficient in English, however, may need to understand many more words in order to comprehend the text.

With regard to writing, students are sometimes asked to prepare essays in social studies classes, often in a comparison-contrast, problem-solution, or cause-effect style. Composing these types of essays well depends on considerable background knowledge, organization, and rhetorical skill, attributes that students who are learning English may only be beginning to acquire. If the instructional time in a social studies classroom is devoted to a simple, factual question and answer style, the amount of time students have to talk gets reduced. Students learning English benefit from instruction that allows time for them to process the words in their second language (English) and to formulate a response before speaking out. Further, students strengthen their language learning when they can join extended class discussions on meaningful topics and use English to give opinions, make conclusions or comparisons, and engage in other forms of high order thinking.

Even when students have opportunities for discussions in class, they need strong language skills to participate effectively. Consider a lesson where students must draw inferences about the transcontinental railroad built across the western United States in the mid 1800's. They might read about the opinions (from textbooks or original documents) of Native Americans, ranchers, traders, settlers, and families with relatives in both Wyoming and Pennsylvania. They might look at pictures and drawings of the countryside before and after the railroad. They might analyze the economic impact of the railroad. They might present alternative routes for the railroad using topographical maps, or alternative strategies for linking the east and west.
Throughout these activities, there would be classroom discussion, debates, and role plays. All of these activities, which reflect many essential social studies skills, require students to understand

information received in English and to express their thoughts and opinions in English. These types of tasks are not impossible for students learning English, but must be carefully orchestrated so students are assisted in learning and using English to accomplish the tasks.

Social Studies Reform and Standards Development

Since 1989 the United States has been moving towards a new vision of education, with national education goals for all students from pre-school through adult. The education goals, which have been supported by the business community and the nation's governors, have nevertheless, provoked much debate. A good part of the debate has centered on Goal 3[1] which calls for all students to master challenging subject matter in core content areas, and on the subsequent development process of content area standards and assessments to determine if standards are being met.

Unfortunately, most of the content standards for Goal 3, including those written for history, civics and government, geography, economics, and social studies, were developed for monolingual English-speaking students, primarily by teachers, researchers, and policy makers who did not have expertise in the process of learning content through a second language. Educators who work with students learning English have argued that state and local standards-based policies and practices must meet the educational needs of these students (see Center for Applied Linguistics, 1993; McKeon, 1994; Teachers of English to Speakers of Other Languages, 1997).

National Social Studies Reform

In recent years while the spotlight of school reform has focused mainly on the fields of mathematics and science, social studies and its inclusive domains of history, geography, anthropology, civics, government, and economics have also examined their traditional approaches to teaching and learning and proposed reforms. Suggested curricular reforms include:

- increasing the amount of history taught in schools
- broadening the curriculum to include global studies or multicultural education
- changing instructional practice and teacher training, and
- creating an interdisciplinary curriculum with a central focus on social studies.

In terms of teaching and learning, other reforms are proposed:

- decreasing the repetition of topics taught from grade to grade
- providing in-depth coverage of topics while reducing the breadth of topic coverage
- organizing instruction around a few powerful ideas
- making connections between social studies topics and students' personal experiences
- examining topics from multiple perspectives
- developing the habits of mind of social scientists and historians
- Increasing use of primary source documents, and

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[1] "Students will leave grades four, eight and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, geography, civics, foreign language, the arts, and economics; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy." [Goals 2000: Educate America Act (PL 103-227)]

- adding more global and multicultural contents.[2]

Many of these ideas have been explicated and operationalized in the content standards that have been issued by the National Council for the Social Studies (1994), the National Center for History in the Schools (1996), the Geography Education Standards Project (1994), the Center for Civic Education (1994), and the National Council on Economics Education (1997). The National Council for the Social Studies' vision for teaching and learning explicitly calls for instruction that is integrative, meaningful, value-based, active, and challenging.

These national standards have only been released in the past four years and have yet to make a strong impact on classroom instruction. Teachers need professional development to learn about these standards and how to help students meet them through their teaching practices. New textbooks need to be published that reflect the standards, and new courses and assessments need to be designed to reflect the new vision of social studies education.

Much of the national reform movement has not focused on teaching social studies to students learning English. National organizations, such as the National Council for the Social Studies, have not issued guidelines or recommended strategies for teaching these students. One positive trend for these learners, however, is the movement towards multicultural education. Many social studies educators advocate incorporating more information on other cultures in instructional materials. The national social studies standards (National Council for the Social Studies, 1994) offer guiding principles that demonstrate an appreciation of cultural diversity among people, recognize the value of having diversity in democratic community life, and encourage students to construct a global perspective as they interact in a culturally diverse world that possesses limited resources. Multicultural and global education are useful instructional pursuits for Florida students. When addressed through social studies courses, students become familiar with the diverse cultures found in many Florida communities and more prepared for the national and international business and professional opportunities that await them.

Sunshine State Social Studies Standards

The Florida curriculum framework for social studies, *Pre-K–12 Sunshine State Standards and Instructional Practices*, (Florida Department of Education, 1996) is a useful document for district personnel and teachers as they implement standards-based instruction. The document offers Florida educators a strong philosophical foundation to help local districts develop a vision about social studies teaching and learning. It places the social studies into the broader context of the state's educational goals and provides limited guidance in implementation, offering general teaching strategies, ideas for adding social studies content into other curricular areas, and suggestions for professional development of teachers.

These social studies standards offer a set of 12 content standards across four strands: history, geography, civics, and economics. Each standard is illustrated with benchmarks that describe expected student knowledge and skills at four developmental levels (grades pre-K–2; 3–5; 6–8; and 9–12). At least one sample performance description, that is, an assessment activity, accompanies each benchmark at each grade level cluster.

A review of the document reveals a number of benchmarks where students who are learning English, particularly those of immigrant families, will have a great deal to contribute to the classroom discussion and learning tasks. These standards explore the value of cultural diversity and multicultural education as applied to the study of social studies, as the example below shows.

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[2] For a more complete treatment of these curricular and instructional reforms, see Banks & Banks, 1989; Brophy, McMahon & Prawat, 1991; California St. Dept. of Education, 1987; Crabtree, Nash, Gagnon, & Waugh, 1992; Freeland, 1991; Lindquist, 1995; National Council for the Social Studies, 1993; Parker, 1991; Risinger, 1992; and Thorton, 1994.

Standard 3 of the history strand: The student understands Western and Eastern civilization since the Renaissance.

Benchmark: Students in grades pre-K–2 are expected to understand the daily life, history, and beliefs of a country as reflected in dance, music, or other art forms (e.g., such as paintings, sculptures, and masks).

Although the distinction between Western and Eastern civilization may be conceptually abstract for primary school children to understand well, this benchmark suggests concrete ways in which students can relate to the different civilizations. Moreover, students learning English represent a variety of cultures and can share their knowledge of the fine arts as well as the daily life, history, and beliefs of many countries with their classmates.

Another example, one from the geography strand, also captures the benefits of having a culturally diverse class.

Standard 1 of the geography strand: The student understands the interactions of people and the physical environment.

Benchmark: Students in grades 6–8 are expected to understand how cultures differ in their use of similar environments and resources.

Middle school immigrant students can describe the ways in which people in their countries interact with the physical environment, in terms of land use allocation, agricultural practice, urbanization, and conquest. Cultural views on issues like environmental protection and utilization of natural resources can be compared across numerous cultures and political systems.

Although a number of the Sunshine State Social Studies Standards offer benchmarks where the cultural diversity of many students learning English confers added value to the class, other benchmarks may be more difficult to achieve given the language demands of the standard and benchmark. Consider the following:

Standard 1 of the history strand: The student understands historical chronology and the historical perspective.

Benchmarks: Students in grades 3-5 are expected to use a variety of methods and sources to understand history (such as interpreting diaries, letters, newspapers; and reading maps and graphs) and know the difference between primary and secondary sources. Students in grades 9–12 are expected to use chronology, sequencing, patterns, and periodization to examine interpretations of an event.

The benchmark for grades 3–5 expects students to have strong literacy skills. Beginning and intermediate level English language learners may struggle to comprehend some of the different reading materials that might be assigned. If teachers differentiate the instructional tasks, so these learners might use some sources, but not necessarily all (as appropriate to their English language development), then they may be able to demonstrate competency for this benchmark.

The benchmark for grades 9–12 requires even more sophisticated knowledge of language from the older students. Interpretation often turns on an understanding of the nuances of word choice, the cue words for time, the verb tense distinctions (e.g., significance of simple past versus past perfect), and more. As at the younger grade levels, students learning English may need additional support from teachers in order to reach this benchmark. Besides considering the language implications of the standards and benchmarks, teachers must not assume all students have the same amount of background knowledge.

With appropriate instruction, though, students can reach benchmarks like the following:

Standard 1 of the civics strand: The student understands the structure, functions, and purposes of government and how the principles and values of American democracy are reflected in American constitutional government.

Benchmarks: Students in grades pre-K–2 are expected to know traditionally patriotic activities and various holidays that reflect the shared values, principles, and beliefs of Americans. Students in grades 6–8 are expected to know the essential ideas of American constitutional government that are expressed in the Declaration of Independence, the Constitution, the Federalist Papers, and other writings.

Recent immigrants to the U.S. are unlikely to be familiar with the national holidays, traditional patriotic activities, and American values, principles, and beliefs. Students who have been raised in the U.S., in contrast, probably are knowledgeable about some, if not all, of these matters. Teachers need to be careful not to skip over explanations of the events or cultural norms.

Similarly, students who have not spent all their lives in the U.S. may not have been immersed in the daily issues, events, and news stories that relate to the Declaration of Independence, the Constitution, or current events. They may enter classrooms without understanding of the Bill of Rights, for example, that many other native English-speaking students have as a result of long-term exposure to our popular culture. Teachers will need to accommodate these differences in background knowledge through careful instruction.

Suggestions for Teachers to Enhance Social Studies Instruction and Assessment

Because the national standards documents related to the social studies do not address the instructional or assessment needs of students learning English, educators should look to the national *ESL Standards for Pre-K–12 Students* (Teachers of English to Speakers of Other Languages, 1997) for guidance. Goal 2, "To use English to achieve academically in all content areas," has three relevant standards for students: (a) use English to interact in the classroom; (b) use English to obtain, process, construct, and provide subject matter information in spoken and written forms; and (c) use appropriate learning strategies to construct and apply academic knowledge. The document explains how the standards may be applied across different English proficiency levels and at different grade levels. It describes multiple instructional techniques for developing academic literacy and making content comprehensible through an extensive series of vignettes, a number of which take place in social studies classrooms. Below, suggestions for teachers to enhance social studies instruction and assessment are provided.

Local Curriculum Development

As local school districts develop curricula based on the state social studies standards, they should consider including explicit instructional examples as to how teachers may tap students learning English as cultural and historical resources in the classroom. The curricula can guide teachers toward instructional strategies and supplemental resources that would facilitate the contributions about the native countries' histories and cultural practices that culturally diverse students can make to the classroom interaction. For example, referring back to standard 3 of the history strand, a curriculum might include ideas like asking students to bring in costumes and music related to cultural celebrations or having parents visit and demonstrate activities like folk dancing or playing ceremonial music. For students engaged in activities for standard 1 of the history strand, recommendations for using native language newspapers or soliciting old maps and sample letters and diaries written by the students' relatives could be made.

Local districts might also develop a theme-based curriculum which would provide a framework for teachers to introduce students learning English to key concepts and vocabulary, by spiraling information and adding new pieces, while having the students practice associated language skills. Thematic units not only give students more time to learn about the subject matter,

but also more time to explore the information through a variety of language tasks. A theme allows for natural language development in the course of presenting content topics where academic language can be introduced and reinforced throughout the thematic lessons. Curriculum writers, however, need to select language and content objectives carefully so they complement and reinforce each other. Curriculum writes also need to ensure that the order in which the language objectives are taught follow sound second language acquisition principles.

Textbooks and Resources

Teachers should select textbooks for classes with learners of English in mind, and analyze social studies textbooks for potential language and content difficulties. By considering the vocabulary used in textbooks, the assumptions about background knowledge of a topic, and the presence or absence of cultural diversity, teachers can anticipate areas of difficulty for students learning English and can adjust their instruction accordingly. By looking at how the text passages are organized, such as in chronological order or in a cause-effect style, teachers can help students recognize cue words and thus be familiar with the writing style, which can enhance student understanding.

Teachers should also use social studies resources developed by language specialists to supplement the textbook. Some history and government texts have been written by language educators specifically for students who are learning English (e.g., Chamot, 1987; Short, Mahrer, Elfin, Liten-Tejada, & Montone, 1994; Short, Montone, Frekot, & Elfin, 1996; Short, Seufert-Bosco, & Grognet, 1995; Terdy, 1986). These books distinguish themselves from mainstream commercial materials by incorporating: (a) pre-reading activities to explain vocabulary, provide background information, or relate concepts to student experiences; (b) graphic representations of social studies information; (c) adapted reading passages that modify the vocabulary and sentence structure; (d) listening and speaking tasks to complement reading and writing activities; and (e) critical thinking and study skill activities. These types of supplemental materials not only provide teachers with suggested instructional techniques, but also highlight problematic areas for these students, whether it be language, skill, or content related.

Students learning English often need to learn to use textbooks. For example, students need to be familiar with not only the basics, such as the difference between an index and a glossary, but also how to skim through a chapter using headings and when to interrupt the reading of the main narrative to read sidebars or look at figures and illustrations.

Instruction

In order for students to be successful in content classrooms, they must understand the academic language related to the topics, the content concepts that are linked to the instructional objectives, and the tasks associated with the subject area. Teachers must organize their instruction around these three areas (i.e., academic language, content concepts, and tasks) during both the planning and enactment of lessons as they manage the teaching and learning process. The more familiar the students learning English are with the academic language and the social studies activities in particular, the easier it will be for them to learn new content once they are in a regular classroom. At times, teachers may emphasize one area more than the others, but social studies teachers who provide instruction to learners of English must pay attention to all three components if they wish to help students meet high standards.

Instructional techniques that aid reading comprehension may be used in the classrooms with learners of English as well as regular English-speaking students. These include: (a) pre-reading discussions about the connections between a chapter's information with students' knowledge and experiences; (b) vocabulary overviews that teach new terms before reading; (c) prediction guides that help students use clues like pictures and headings to anticipate what a chapter will be about; (d) sectioned readings that divide the chapter up into sections among groups of students who read their section and then teach it, in turn, to the others; (e) graphic organizers that

represent important information visually through charts, maps, and other diagrams; and (f) note-taking practice that shows students ways to take notes while reading a chapter.

Because students are working with new information through a new language, they often need extra time to practice and apply the content topics in multiple ways, verbal and nonverbal. Instruction that allows the students to discuss the topics promotes listening and speaking and builds knowledge over time. A broad range of interactive activities from observing and reporting (e.g., through photographs and illustrations), to acting out historical events (e.g., through pantomimes and skits), to drawing maps, and to designing graphs (e.g., by hand or with computers) can give students opportunities to manipulate the subject matter and practice academic English.

Sometimes students process and understand content information better when they have opportunities to discuss it in their native language. In cases where students from the same language group are in a class, encouraging some communication in the native language when they work in pairs or small groups can not only support literacy development in English, but can also promote biliteracy. As students discuss social studies content in their native language at home and in school, they are reinforcing and expanding their understanding of the information. In these ways, as students learn the concepts, teachers can focus on teaching them the appropriate language to apply academic concepts in English or in another language. Furthermore, students benefit cognitively if they continue to develop their native language proficiency. Such development encourages students to become competent bilinguals who will be available to fill important workplace jobs.

For the most part, instructional content is determined by the curriculum and instructional materials selected. The academic language also needs to be drawn from these sources. Teachers should identify the vocabulary and the writing styles of the discipline (e.g., how to report on past events like a historian) and then use this knowledge to tailor their teacher talk, to generate language objectives, to capitalize on language learning opportunities in the course of a lesson, and to create events and activities in their classrooms that promote student communication about the content, in oral and written form. The more opportunities students have to use English in class, through discussion and writing activities, the more effective their English will become. Practices proposed by social studies reformers, such as inquiry-based classrooms, oral histories, project-centered learning, and historical interpretation through authentic source material, help students acquire the habits of mind of historians and other social scientists.

Assessment

While students are still learning English, they may have difficulty articulating what they know and have learned about a social studies topic. Hands-on and performance-based activities, in combination with oral and written assignments, enable teachers to determine students' comprehension. Such activities also enable students to confirm their own understanding of new concepts. Activities that are less language dependent allow students to demonstrate and apply their knowledge without the distraction of remembering subject-verb agreements, transition words, or other stylistic and form-related phrases in speaking or writing.

Because students develop language proficiency over time, other assessment procedures, such as portfolios, observation checklists, and journals allow them to demonstrate and articulate content knowledge. Use of self and peer evaluations encourage students to take responsibility for their own learning. Teachers may also want to create a list of possible unit projects or activities and have students select products to be graded. Projects are not only useful assessment tools, but also anchors for students to confirm and apply their new knowledge.

Assessment measures should be screened for language barriers and cultural bias. Tests are known to include language twists, such as the use of negative stems in question prompts (e.g.,

"Which of the following are not..."). This practice does not serve learners of English who may lack the proficiency to catch the intent of the question. Similarly, cultural bias can invalidate a test for some students. For example, a simple question like "What color is a bride's dress?" is inaccurate if the expected answer is "white," when many cultures use other colors to celebrate marriages. Cultural bias may also be evident in the illustrations which may reflect gender or racial stereotypes.

Students learning English as a new language should be held to the same rubrics, scales, and scoring systems as native English speakers. Their educational progress should be monitored as they receive instruction that supports their language development. Educators responsible for monitoring students' progress and scoring their assessments must also be responsible for differentiating between students' developmental language errors and their knowledge of social studies content. It is also important to recognize that some students may need more time than English speaking students to reach the same performance level.

Conclusions

Despite the challenge that social studies presents to students learning English, there are ample reasons to include this subject in the students' educational program. First, the subject is relevant and meaningful, and students can develop their language skills through social studies topics that are part of their grade-level curriculum. Second, with teacher assistance, students can acquire important academic skills, such as using textbooks and source material, and practicing note-taking, study skills, and higher-level thinking tasks.

Critical aspects of education, such as equity and accountability, will continue to affect students learning English. Because the task of delivering appropriate standards-based instruction to non-native English speakers is challenging, teachers are impacted by the presence of students learning English. Teachers require sustained and supportive professional development if they are to deliver standards-based instruction. They need to understand the purposes behind the standards movement and accept the potential benefits of school reform. In the case of classes with students who are learning English, the work of the teachers will be even more challenging. They need to build from the instructional practices they already use and modify them to fit the standards-based approach. They require support in learning strategies for developing the students' academic literacy. They also need to utilize the resources present in their schools, namely fellow teachers. To improve the education of students learning English, teachers need to work together to plan thematic units, choose textbooks, and explore different instructional techniques to determine those that are most effective with their students. In the final analysis, student achievement will be the measure on which the reform movement as a whole is evaluated. To ensure that schools serving learners of English are successful, educators must provide the resources that promote effective instruction, and monitor the implementation of effective instruction and assessment policies and practices.

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Promoting the Contributions of Multicultural Students in the Work Force of the 21st Century

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Abstract

As the nation shrinks communicatively, economically, and socially, our diversity becomes more visible and harder to hide. But it has been and will always be there. Our social institutions concerned with the development of our children and families need to address it more than in the past. Of specific importance will be how our educational institutions help us address it successfully. Confronted with this reality, policy makers, administrators, teachers, parents, the business community, and other private sector partners urge each other to do something different to promote student achievement -- change teaching methods, adopt new curricula, enhance standards and accountability, and build bridges between school and work. Although such actions may be needed, they will not be meaningful unless we begin to think differently about the educational needs of all of our students. Thinking differently involves viewing all students in new ways that may contradict conventional notions. This change in thinking allows us to come to a new set of realizations about the value and importance of schooling experiences. Recent research and practice advances have provided us with a set of new understandings regarding this issue. This contribution will provide an overview of these schooling activities which have significantly advanced efforts to make instructional services effective for all children and for the growing population of highly diverse students.

Promoting the Contributions of Multicultural Students in the Work Force of the 21st Century

Eugene García

As many typical teachers look around their classrooms at their students, they frequently see a picture much different from the images of their childhood. Today one in three children nationwide is from an ethnic or racial minority group, one in seven speaks a language other than English at home, and one in 15 was born outside the United States. During the past decade the linguistic and cultural diversity of America's schools has increased dramatically, and is expected to increase even more in the next several decades. The concept of "minority" groups is becoming obsolete as the dominant group looses majority status.

Confronted with this reality, policy makers, administrators, teachers, parents, the business community, and other private sector partners urge each other to do something different to promote student achievement -- change teaching methods, adopt new curricula, enhance standards and accountability, build bridges between school and work, and allocate more strategic funding. Although such actions may be needed, they will not be meaningful unless we begin to think differently about the educational needs of all of our students. In order to educate this growing diverse student body, we must first educate ourselves about who they are and what they need to succeed in the future that awaits them. Thinking differently involves viewing these students in new ways that may contradict conventional notions. This change in thinking allows us to come to a new set of realizations about the value and importance of schooling experiences.

During my recent assignment as the Director of the Office of Bilingual Education and Minority Languages Affairs in the U.S. Department of Education, I attempted to combine my professional experience and expertise as an educational researcher with my personal cultural and linguistic experiences in order to more effectively address issues of national educational policy. The professional in me has been and continues to be nurtured by some of the best educational institutions in the nation; the personal part of me has been and continues to be nurtured by a large, rural, Mexican American family -- all speaking Spanish as our native language, all born in the United States like our parents, grandparents, and great grandparents. Although I am one of ten children, five of which graduated from high school, I am the only one who graduated from college. Bringing these *personas* (Spanish for "persons") together was not as difficult as I expected. This intersect was quite helpful to me, my colleagues, and the wide variety of audiences with whom I interacted in this national role. By intersecting these personas, I was able to communicate with individuals in ways that were not possible if I spoke only with the professional or personal voices.

This present discussion is an attempt to put into writing these intersecting but distinct voices in order to help further our understanding of living in a diverse society. In this discussion, I consider the role of educational institutions striving to serve linguistically and culturally diverse populations today and the ways in which we can serve these students better in the future. This discussion is particularly pertinent since in the United States, the historical pattern of educational achievement for these populations has been a continuous story of under-achievement. But it need not be that way in the future. Educational institutions today are confronting issues of both equity

and excellence. Our educational endeavors aimed at underachieving students have been to provide equal educational opportunities. The challenge today is for those opportunities to produce excellence in academic outcomes. This is how our three decades of efforts in serving these students must change: from equality in educational opportunities to excellence in educational outcomes. At the core of educational reform for our linguistically and culturally diverse students are two central presuppositions:

- To honor diversity is to honor the social complexity in which we live and to give each individual integrity.
- To unify is absolutely necessary, but to insist upon it without embracing diversity is to destroy what allows us to unite -- individual and collective dignity.

Aligned with these presuppositions and the standards-based educational reform in our schools, I suggest that reform for this growing subset of students must include new theory, empirical research, policy articulations, and instructional practices that enable us to better serve these students -- to move them from the realm of educational failure to educational success.

The Importance of Education for All Students

The continuing attention to educational reform in this nation has produced 10-20 yearly national reports, ranging from preschool to higher education and in between. Reform efforts have focused on many variables that today influence our educational institutions and others which will inevitably affect future educational endeavors. Several issues underline the most recent and continuous educational consideration for our children:

- Societies -- past, present, and future -- rest on the fundamental educational capabilities of their individual members. We must prepare all of our children for a successful future.
- In the new global economic context, U.S. society is at a significant and growing competitive disadvantage in developing international trade. Presently one in ten U.S. jobs are related directly to international trade. In the next two decades, over 50% of the U.S. jobs are estimated to be related to international trade.
- Education has become a major activity of non-educational institutions. Only one-third of formal education occurs in primary, secondary, and post-secondary educational institutions.
- In their working lifetimes, today's sixth graders will average seven to ten job changes and two to three career changes. My father was an agricultural worker and died an agricultural worker. I have had four jobs within one profession. My daughters will likely change jobs 10 times and change professions two or three times.
- Only 8% of tomorrow's jobs will require less than a high school education, 35% of the jobs will require at least a high school education, and 60% of the jobs will require 3 or more years of post-secondary education.
- The information and service sector of the economy will provide 80% of new jobs. Employees in these sectors must have good people skills, as well as be flexible, computer literate, creative, and highly communicative (preferably in more than one language).
- Major value shifts have occurred in the last three decades. We are being transformed by changes in sexual, recreational, health, environmental, and familial values.

What is the role of the school under these new and developing circumstances? Schools cannot provide adequate job training skills. Because the job market is volatile, employers find it necessary to provide highly tailored, job-related training. Schools must take on several responsibilities which are similar to and different from those in the past:

- Schools must serve children well with regard to the development of academic skills, so that all individuals can become communicative and literate linguistically, mathematically, and technologically.
- Schools must shift their emphasis to the development of what I call "living" processes which will enhance human relationships, critical thinking, and civic responsibility.

In essence, schooling must become collaborative, highly social in nature, and process-oriented. Students' lives, even more than our own, will face continuous social, economic, and technological change. As a result, current students, as adults, must be able to react to changing life situations. No matter what their specific employment, civic, or cultural context, tomorrow's adults must act as well-informed individuals and reason with reflection and analysis.

Demographic Challenges to Educational Reform

The United States is beginning to realize its "new diversity," as the total number of students identified as Language Enriched Pupils (LEPs) surpassed 3 million since 1993-94. Since 1990-91, increases in the number of LEPs have averaged 8% annually. Based on U.S. Department of Education data (which are not exhaustive because not all states are required to report such data), the estimated number of these students over the past five years is as follows:

Total Number of LEP Enrollment in U.S. Schools

School Year	LEP Enrollment (in the thousands)	Increase from Prior Year
1994-95	3,185,000	4.8%
1993-94	3,038,000	15.9%
1992-93	2,735,000	7.9%
1991-92	2,430,000	10.5%
1990-91	2,199,000	2.0%

U.S. Department of Education. (1996). *LEP students: State reports.* Washington, DC: Office of Bilingual Education and Language Minority Affairs.

LEPs are not distributed equally across the states. States with the largest numbers of LEP enrollments for 1994-95 are listed below.

Distribution of LEP Enrollment Nationally

State	LEP Enrollment (in the thousands)	% Total
California	1,262,982	39.9%
Texas	457,437	14.5%
New York	236,356	7.5%
Florida	153,841	4.9%
Illinois	107,084	3.4%
Arizona	98,128	3.1%
New Mexico	84,457	2.7%
New Jersey	52,081	1.6%
Washington	51,598	1.6%
Subtotal	2,503,964	79.0%

U.S. Department of Education. (1996). *LEP students: State reports.* Washington, DC: Office of Bilingual Education and Language Minority Affairs.

The challenge of educating students learning English is widespread throughout the nation, with 46.3% of the schools reporting LEPs. For some school districts, the enrollment of LEPs has had a particularly strong impact. For these districts, the challenge to address the needs of students learning English is particularly urgent. Although it is generally known that the many schools of the

Southwestern states have high levels of LEP enrollments, a surprising percentage of schools in Southern states as well as parts of New England are also serving large populations of LEPs. The regional distribution of schools with LEPs indicates that ensuring a high quality education for all children cannot be a concern of only a few states or particular ethnic groups.

Regions with LEP Enrollment

Region	LEP Enrollment (in the thousands)	Percentage of Total Students
Northeast	7,126	52.2%
Midwest	6,285	26.6%
South	11,733	44.4%
West	12,275	72.3%
Total	37,419	46.3%

U.S. Department of Education. (1996). *LEP students: State reports.* Washington, DC: Office of Bilingual Education and Language Minority Affairs.

These data indicate the reality that school districts in all regions of the nation are confronting the challenge of educating LEPs. Providing students with quality education is a national issue to which critical resources and attention are devoted. Moreover, according to National Center for Education Statistics (1994), data on school size, poverty, and LEP enrollments, the most difficult conditions converge on a set of schools with specific characteristics. The 100 districts with the largest number of poor children house over 40% more children per school building than the nation's average. The nation's average number of students per school in public elementary and secondary schools was approximately 511 in 1993-94. In contrast, this same average was 713 for the 100 districts with the largest number of poor children, a 40% difference above the nation's average. In addition, schools with 20% or more of the students receiving free or reduced-price lunch are twice as likely to have LEPs than those that have less than 20% eligible for free or reduced-price lunch. Seven out of 10 schools with minority enrollments of 20% and above have LEPs, whereas only three in 10 schools with less than 20% minority enrollment have LEPs.

It is apparent that schools in all regions of the nation are confronting the challenge of educating LEPs. Thus, providing these students with equal access to quality education is a national issue which requires critical resources and thoughtful attention to resolve. Florida is a state that is attempting to take a leadership role in addressing this national challenge.

National Educational Responses to Linguistic and Cultural Diversity

Linking personal and professional experiences allows me to go from the professional to the personal with regard to the issue of educating LEPs. Isn't good education for non-LEPs the same as good education for LEPs? Well, yes and no.

A Personal Account

In my large and quiet Catholic family, to baptize a child was a distinct honor. In recognition of that honor *los padrinos* (the Godparents) were given the authority to name the child. My parents selected my eldest sister and her husband to serve as my padrinos. My sister was enchanted with the name "Eugene" and that is how I came to have a Greek name in a cohort of brothers and sisters named Antonio, Emelio, Cecilia, Ciprianita, Abel, Federico, Tiburcio, Christina, and parents named Lorenzo and Juanita. Of course, my mother could not pronounce "Eugene," so I became "Gino."

"Gino" carries a distinct sense of culture that reflects a deep regard for linguistic and cultural roots. This relationship is exemplified by a lesson from my father. As farm workers and share croppers, winter was a time to prepare for work -- there just was not the quantity of work to

do during this period. One farm winter in the high plains of Colorado where I was born and raised, my father pointed to an árbol -- a cottonwood tree as I recall -- near our home. He asked simply, "¿Por qué puede vivir ese árbol en el frio del invierno y en el calor del verano?" (How can that tree survive the bitter cold of winter and the harsh heat of summer?). My father was not a man of many words -- he was often characterized by relatives as quiet and shy -- but a person who, when he spoke, all listened carefully. I remember struggling to find an answer. I was also characterized as quiet and shy. But I tried to respond to my father. I remember rambling on for some time about how big and strong the tree was and how its limbs and trunk were like the strong arms and bodies of my elder brothers ... Then my father kindly provided a different perspective by referring to a common Spanish dicho (proverb): El árbol fuerte tiene raíces maduras (A strong tree has mature strong roots). In articulating this significant analysis that was absent from my youthful ramblings, he made very clear that without strong roots, strong trees are impossible, even though we don't see the roots. What became clear to me at that time was that if you have no roots, how can you withstand the tests of the environment that surely will come. For me as an individual with a set of cultural and linguistic roots, if my roots were to die and I was to be stripped of the integrity that lies in those roots, then I would also disappear along with all that is important to me.

For many LEPs in this nation, their roots have been either ignored or stripped away in the name of growing strong. Many have been directed to stop speaking the languages of their homes, to perceive their culture as one less than what it should be, and to assimilate as quickly as possible, so they can succeed in American society (Chavez, 1991). And, unfortunately, many have suffered the fate of the rootless tree -- they have fallen socially, economically, academically, and culturally. Like that fallen tree, they have been made transformed and forever lost the individual and cultural integrity that their ancestors once thrived.

But for Gino, my mother made it clear, roots and their concomitant integrity and self-respect were not enough. As a mother, she wanted the best for all her children, certainly not the long and painful field work that she had endured for a lifetime. She wanted us 'bien educados" -- to have a set of formal and marketable skills. She made it clear that children needed wings, like the wings she insisted we children grew every night upon falling to sleep, so the children could fly to heaven to be with God. All children, she said, were angels. My mother made it clear that she could not provide the kind of wings that God and a good education could provide. She knew that the teachers and schools would have to take me further than she could. Education would need to provide the strong and elaborate wings for me to succeed where she often felt she had failed. God can provide you with strong spiritual wings, she reminded us -- always go to church and follow His teachings. And, go to school -- strong wings like those of an eagle are also what you need in this world to raise your family and provide for them all that we have been unable to provide for you.

For other LEP students much like me in this nation, the emphasis on building wings in school has strategically focused on teaching English language skills, "Teach them English well and then they will succeed." Yet educators realize that in today's information age, education must provide broad and strong intellectual wings related to the fundamental linguistic, mathematical, scientific, and technological literacy. English literacy is important, but it is not enough.

Gino feels that Hispanics, like those represented by him and his family, have been educationally short-changed. This is reflected for him in his sister's name change by her teacher, as her name changed from "Ciprianita," the name of her padrinos to "Elsie," the teacher's favorite name. It is reflected in the counseling he received against going to a good university because his SAT scores were not high. His counselor, in fact, said that he would never be a Ph.D., although he didn't even know enough then to understand the low expectations that were imbedded in that counseling. "A good education" for all the students in this nation must include an understanding of who they are and how they can act on that understanding. Not all agree with this important conclusion.

The Debate

Most critical of such views of the interactive relationship of roots and wings for LEPs are two well regarded and influential Hispanic authors, each in their own way refuting the importance of roots and the relationship of those roots to educational development. Linda Chavez, an advisor in the Reagan White House, journalist commentator and author of *Out of the Barrio: Toward a new politics of Hispanic assimilation* (1991), suggests:

> Every previous group -- Germans, Irish, Italians, Greeks, Jews, Poles -- struggled to be accepted fully into the social, political and economic mainstream, sometimes against the opposition of a hostile majority. They learned the language, acquired education and skills, and adapted their own customs and traditions to fit an American context. (Chavez, 1991, p. 2)

The key for success in America, Chavez argues, is minimizing the public and governmental recognition of students' roots and the individual and governmental promotion of assimilation. She chides government, particularly federal Bilingual Education Programs and leaders, for promoting permanent victim status and entitling people to government handouts. Educational support, she believes, encourages students to maintain their language and culture, their specific identity, in return for rewards handed out through affirmative action and federal, state and local educational policies which thwart assimilation. This doesn't sound like my father's concern for the importance of roots and my mother's wings. Linda Chavez is just wrong -- theoretically, empirically, politically, and ideologically as the varied voices of this author make clear in this volume.

Another author, Richard Rodriguez, is relevant to this argument. His eloquent description of his upbringing in a "Mexican" home and a private Catholic school illustrates the school's influence on students' learning. His book, *Hunger of memory* (1982), describes this forced assimilation, painful as it was, that propelled him to new heights of educational achievement. In his story, the English- speaking nuns literally beat the Spanish language and the "Hispanic-ness" out of him. Although he never really articulates the conclusion himself, he leaves open the suggestion that such treatment is exactly what students need in order to become part of the mainstream. Gino reaches a very different conclusion in this contribution. But enough of the personal stories and the debate. Allow me to turn to some recent findings on what works.

What Works: Optimal Learning and Excellence

August and Hakuta (1997) provide a comprehensive review of optimal learning conditions which serve linguistically and culturally diverse populations leading to high academic performance. Their reviews of some 33 studies indicate that the following attributes were identified by this case study research strategy:

> A supportive school-wide climate, school leadership, a customized learning environment, articulation and coordination within and between schools, use of native language and culture in instruction, a balanced curriculum that includes both basic and higher-order skills, explicit skill instruction, opportunities for student-directed instruction, use of instructional strategies that enhance understanding, opportunities for practice, systematic student assessment, staff development, and home and parent involvement. (August & Hakuta, 1997, p. 171)

These features resonate with other recent studies of effectiveness for programs specifically designed for linguistically and culturally diverse populations. California Tomorrow (1995), in a study of early childhood care in California, concluded that a set of principles guided quality child care across a variety of care settings that serve a growing community of linguistically and culturally diverse families:

- Support the development of ethnic identity and anti-racist attitudes among children.

- Build upon the cultures of families and promote cross-cultural understanding among children.
- Foster the preservation of children's home language and encourage bilingualism among all children.
- Engage in on-going reflection and dialogue (California Tomorrow, 1995, p. 8).

In a state mandated study of exemplary schools serving the state's linguistically and culturally diverse students, several key attributes were common in those exemplary schools serving these students (Berman, 1992). These features included: (a) *flexibility* -- adapting to the diversity of languages, mobility, and special non-school needs of these students and their families; (b) *coordination* -- utilizing sometimes scarce and diverse resources, such as federal and state moneys and local community organizations in highly coordinated ways to achieve academic goals; (c) *cultural validation*- -- schools validated their students' cultures by incorporating materials and discussions that built on the linguistic and cultural aspects of the community; and (d) *a shared vision* -- a coherent sense of who the students were and what they hoped to accomplish led by a school's principal, staff, instructional aides, parents, and community (Berman, 1992).

Three more recent effective-exemplary analyses of schools that serve high percentages of linguistically and culturally diverse students nationally are worthy of mention (Thomas & Collier 1995). Three key factors are reported as significant in producing academic success for students in studies of five urban and suburban school districts in various regions of the United States. The studies focus on the length of time needed to be academically successful in English and consider factors influencing academic success, such as the student, program, and instructional variables. These studies include some 42,000 student records per school year and from 8 to 12 years of data from each school district.

- Cognitively complex academic instruction through students' home language for as long as possible and through second language for part of the school day.
- Use of current approaches to teaching academic curriculum using both students' home language and English through active, discovery, and cognitively complex learning.
- Changes in the sociocultural context of schooling, such as integrating English speakers, implementation of additive bilingual instructional goals, and transformation of minority/majority relations to a positive plane (Thomas & Collier, 1995).

A series of case studies of exemplary schools throughout the U.S. serving highly diverse and poor student populations also illustrates what can be done to promote academic excellence (McCleod, 1996). In these studies, selected schools with demonstrated academic success records were subjected to intensive site by site study with the goal of identifying specific attributes at each site related to the functioning of the school as well as a more ambitious effort to identify common attributes across the sites. Schools in four states (Texas, Illinois, California, Massachusetts) were particularly successful in achieving high academic outcomes with diverse students and utilized these common goals for ensuring high quality teaching.

Foster English acquisition and the development of mature literacy. Schools utilized native language abilities to develop literacy that promoted English literacy development. Programs in these schools were more interested in this mature development than transitioning students quickly into English language instruction. This approach paid off in English language development at levels that allowed students to be successful in English instruction.

Deliver grade-level content. Challenging work in the academic disciplines was perceived and acted on simultaneously with the goals of English language learning. Teachers organized lessons to deliver grade-level instruction through a variety of native language, sheltered English, and ESL activities.

Organize instruction in innovative ways. Examples of innovations included: (a) "schools-within-schools" to more responsively deal with diverse language needs of the students; (b) "families" of students who stayed together for major parts of the school day; (c) "continuum classes" in which teachers remained with their students for two to three years, helping teachers become more familiar with and respond to the diversity in the students; and (d) grouping of students more flexibly on a continuous basis to respond to the developmental differences between their native language and second language.

Protect and extend instructional time. Schools utilized after-school programs, supportive computer based instruction, and voluntary Saturday schools and summer academies. These school activities multiplied the opportunities for students to engage in academic learning. Regular teachers or trained tutors were utilized to extend this learning time. Not surprisingly, a majority of students took advantage of these voluntary extensions. Care was taken not to erode the daily instructional time that was available -- erosion often related to auxiliary responsibilities by teachers that take valuable time away from instruction.

Expand teachers' roles and responsibilities. Teachers were given much greater roles in curricular and instructional decision making. This decision making was much more collective in nature to ensure cross-grade articulation and coordination. Teachers in these schools became full co-partners. They devised more authentic assessments that could inform instruction, developing assessment tools and scoring rubrics in reading and mathematics.

Address students' social and emotional needs. Schools were located in low-income neighborhoods serving poor families. Therefore, a proactive stance with regard to issues in these communities was adopted. An after-school activity that was aimed at families, particularly dealing with issues of alcohol and drug abuse, family violence, health care, and related social service needs, brought the school staff together with social service agencies at one school site. Similar examples of actual family counseling and direct medical care were arranged at other sites.

Involve parents in their children's education. Some of the schools were magnet schools. Parents had chosen to send their children there. In such schools, parent involvement was part of the magnet school contract. This included involvement in school committees, school festivals and celebrations, student field trips, and other activities. In non-magnet schools, parent outreach services were an integral part of the school operation. In all cases, communication was accomplished on a regular basis in various home languages. Parent participation in governance of the school was a common attribute, although levels of parent participation were highly variable (McLeod, 1996).

In a similar vein, researchers have described linguistically and culturally responsive learning environments that are essential in developing effective schooling (García, 1997) and high performance learning communities (Minnicucci, Berman, McLeod, Nelson, & Woodsworth, 1995). The focus on the social, cultural, and linguistic diversity represented by students in today's public schools further challenges us to consider the theoretical and practical concerns relative to ensuring educational success for diverse students. That is, high performing learning communities must address issues of diversity in order to maximize their potential and to sustain educational improvement over time. To further examine this challenge, the conceptual dimensions for high performing, responsive learning communities are summarized below.

- A vision defined by the acceptance and valuing of diversity -- bilingualism and biliteracy is good for everyone.
- Treatment of classroom practitioners as professionals and colleagues in school development decisions characterized by collaboration, flexibility, and enhanced professional development.

- Elimination of policies that seek to categorize students, thereby rendering their educational experiences as inferior or limiting for further academic learning.
- Reflection of and connection to surrounding community -- particularly with the families of the students attending the school.

In summary, effective instructional strategies recognize that development and learning has its roots in sharing expertise and experiences through multiple avenues of communication. The instruction recognizes that any attempt to address the needs of these students in a deficit or subtractive mode is counter-productive. Instead, this knowledge base recognizes, conceptually, that educators must be additive in their approach towards these students. Educators need to add to the rich core of cognitive, linguistic, academic, and cultural understandings and skills that students bring with them. Early childhood education needs to confront these challenges systematically in its program endeavors, and each of us can assist in the development of practices that more fully explore the issues raised here.

Lastly, in light of continued educational reform initiatives guided by national and state-by-state efforts, the U.S. Department of Education has issued a set of guiding principles that reflect best practices and knowledge regarding the education of linguistically and culturally diverse students (George Washington University Center for Equity and Excellence, 1996). These principles are suggested for use by states, local school districts, and schools as they consider the broader issue of systemic reform. These principles represent the ideal toward which a school or community will want to strive within a school reform context in educating its own linguistically and culturally diverse students:

- Limited English proficient students are held to the same high expectations of learning established for all students.
- Limited English proficient students develop full productive and receptive proficiencies in English in the domains of listening, speaking, reading, and writing, consistent with expectations for all students.
- Limited English proficient students reach challenging content and performance standards in all content areas, including reading and language arts, mathematics, social studies, science, fine arts, health, and physical education, consistent with those for all students.
- Limited English proficient students receive instruction that builds on their previous education and cognitive abilities and that reflects their language proficiency levels.
- Limited English proficient students are evaluated with appropriate and valid assessments that are aligned with state and local standards and that take into account the language acquisition stages and cultural backgrounds of the students.
- The academic success of limited English proficient students is a responsibility shared by all educators, the family, and the community.

Educational Reform: Questions Related to Equity and Excellence

The following is an attempt to outline in question form an educational environment designed to pursue the challenge of addressing cultural and linguistic diversity with a focus on improved teaching and learning and high performance. Just as there are certain elements of school-wide and classroom practices that increase the likelihood that culturally and linguistically diverse students can be academically successful, the literature reviewed in this paper also provides considerable guidance in the particular questions that can serve as a starting point for developing useful strategies for schools.

- How are language, culture, and student diversity incorporated into the curriculum, instruction, and assessment practices?

- What are the resources, experiences, and structures that contribute to the professional development of the school community; how are these related to student achievement?
- What is the school vision and mission; how are issues of language, culture, and diversity addressed in these; and, how are these articulated with teachers, students, district and school administrators, policy bodies, and parents?
- How do power relationships in society and the educational and local community get embedded in the school?
- What are the prevailing norms and underlying beliefs that shape the roles, expectations, and standards; how do these change as schools create and implement new policies and practices aimed at developing responsive performance learning communities?

In summary, an optimal learning community for linguistically and culturally diverse populations recognizes that academic learning has its roots in both out-of-school and in-school processes. When diversity is perceived and acted on as a resource for teaching and learning instead of a problem, there is a focus on what students bring to the process that generates an asset oriented approach rather than a deficit approach. Within this knowledge-driven, responsive, and engaging learning environment, languages are seen as tools for acquiring and using knowledge (Cole, 1996; García, 1994; Tharp & Gallimore, 1988).

In addition, the search for general principles of learning which work for all students must be redirected. This redirection considers a search for and documentation of particular implementations of general and non-general principles of teaching and learning which serve a diverse set of environments in and out of school. This mission requires an understanding of how individuals with diverse sets of experiences, packaged individually into cultures, make meaning, communicate that meaning, and extend that meaning, particularly in social contexts we call schools. Such a mission requires in-depth treatment of the processes associated with producing diversity and issues of socialization in and out of schools. The mission also requires a clear examination of how such understanding is actually transformed into schools and broader communities to promote high achievement for all students.

In conclusion, it is clear that promoting achievement for students learning English can have a beneficial effect on the performance of all students. By encouraging students to retain and develop their home languages, schools can promote bilingualism and biliteracy for all students. In enhancing the learning opportunities for students from diverse backgrounds, Florida and the nation ensure the development of a multilingual, global work force.

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